USSR/Chemistry - Lignin
Chemistry - Solvents

Oct 48

"Obtaining Natural Lignin From Wood by Destructive Distillation," M. I. Chudakov, Far Eastern Base imeni V. L. Komarov, Acad Sci USSR, 3½ pp

"Dok Ak Nauk SSSR" Vol LXII, No 6

Methanol was found the most effective solvent for extracting lignin. Process lasted 24 hours at boiling point of alcohol. After filtration and washing, lignin was isolated in the form of a cream-colored powder. Data indicates absence of carbonyl grouping in lignin molecules or light dismutation

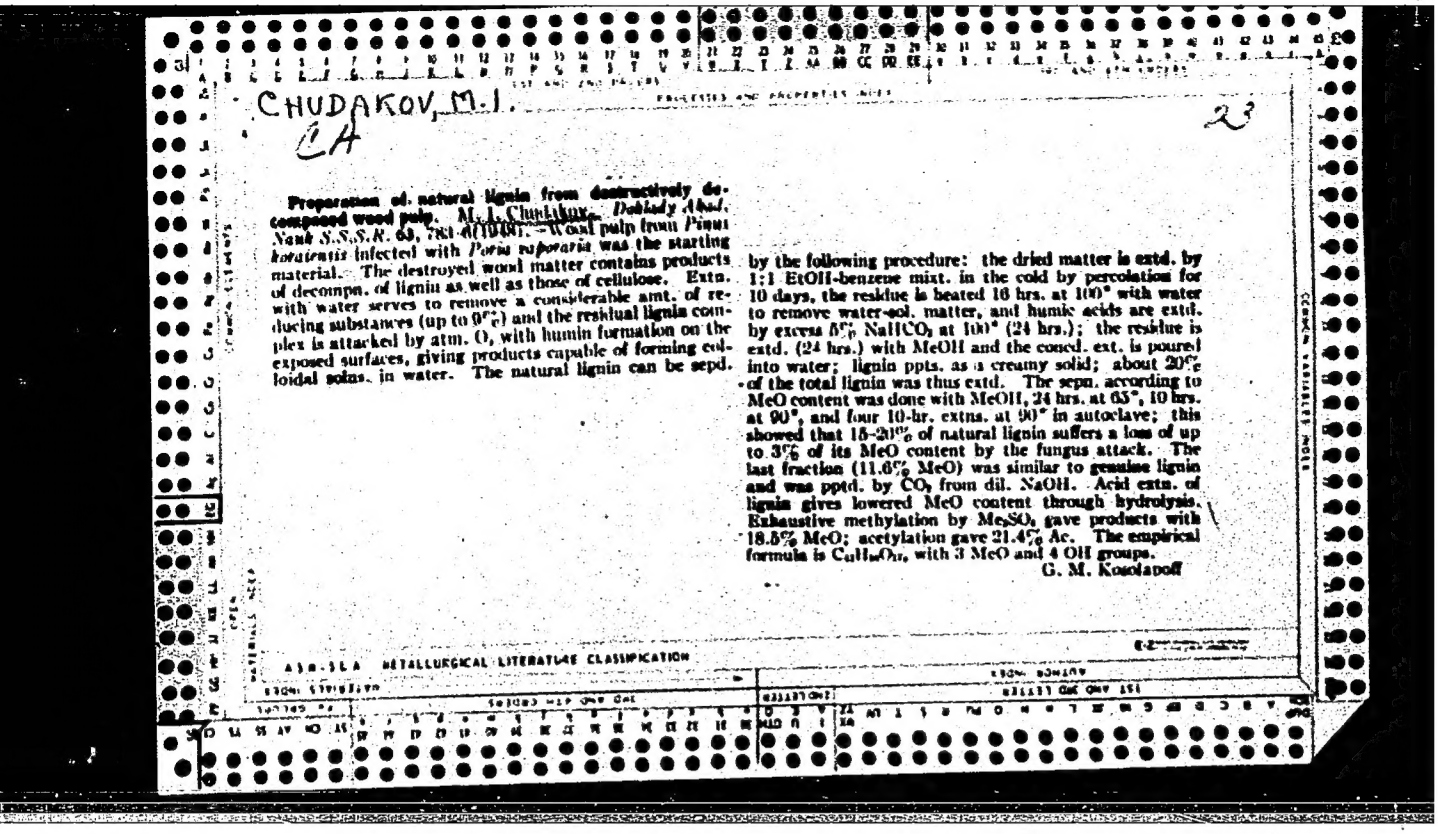
60/49T14

USSR/Chemistry - Lignin (Contd)

Oct 48

conversion in enol form. Submitted by Acad V. M. Rodionov 23 Aug 48.

60/49T14



CHUDAKOV, M. I.

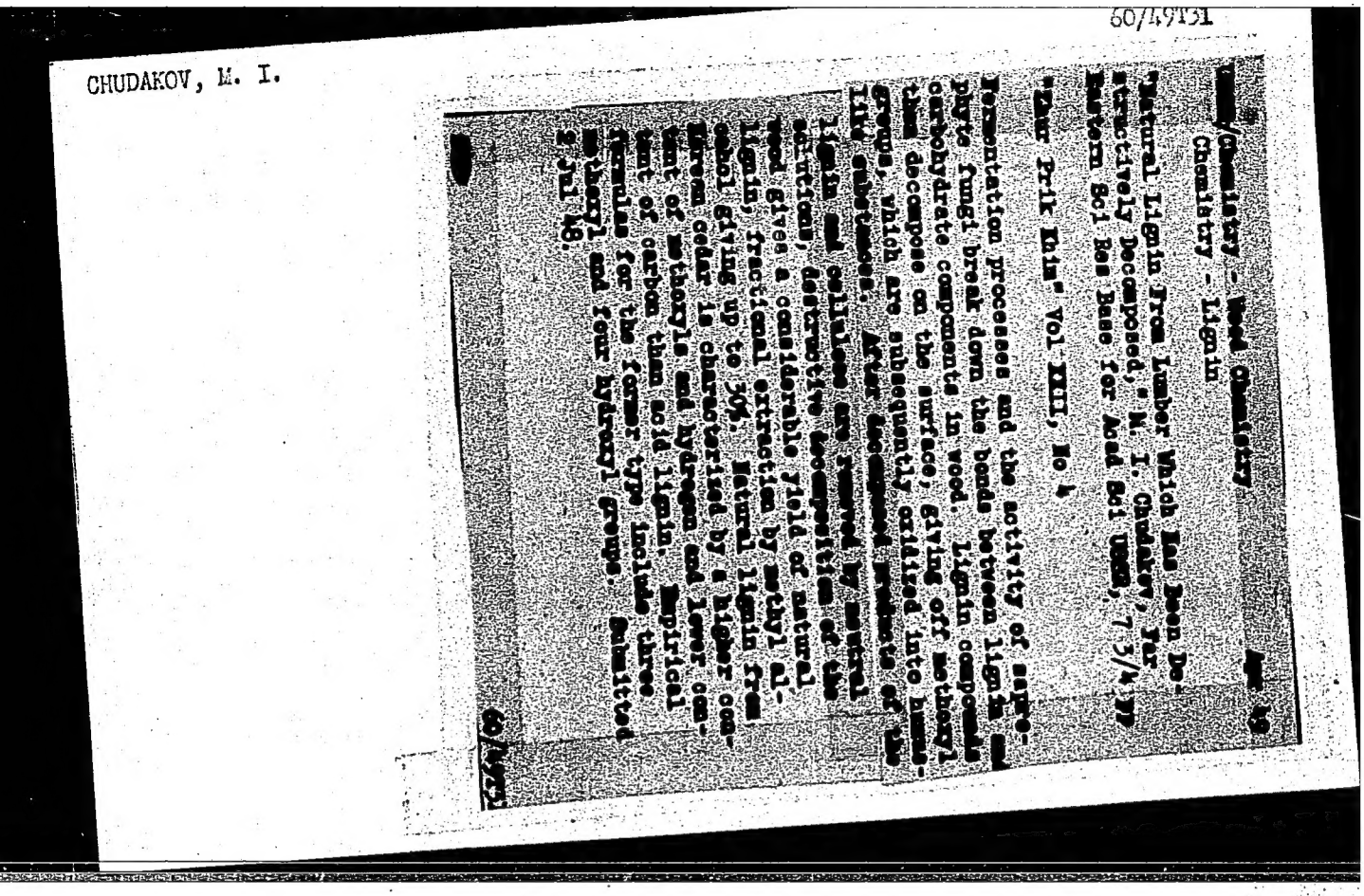
CA

23

Preparation of natural lignin from destructively decomposed wood pulp. M. I. Chudakov. *Doklady Akad. Nauk S.S.S.R.* 63, 781-4(1948).—Wood pulp from *Pinus koraiensis* infected with *Poria subporaria* was the starting material. The destroyed wood matter contains products of decompn. of lignin as well as those of cellulose. Extn. with water serves to remove a considerable amt. of reducing substances (up to 9%) and the residual lignin complex is attacked by atm. O, with humin formation on the exposed surfaces, giving products capable of forming colloidal solns. in water. The natural lignin can be sepd. by the following procedure: the dried matter is extd. by 1:1 EtOH-benzene mixt. in the cold by percolation for 10 days, the residue is heated 16 hrs. at 100° with water to remove water-sol. matter, and humic acids are extd. by excess 5% $NaHCO_3$ at 100° (24 hrs.); the residue is extd. (24 hrs.) with MeOH and the concd. ext. is poured into water; lignin ppts. as a creamy solid; about 20% of the total lignin was thus extd. The sepn. according to MeO content was done with MeOH, 24 hrs. at 65°, 10 hrs. at 90°, and four 10-hr. extns. at 90° in autoclave; this showed that 15-20% of natural lignin suffers a loss of up to 3% of its MeO content by the fungus attack. The last fraction (11.6% MeO) was similar to genuine lignin and was ppted. by CO_2 from dil. NaOH. Acid extn. of lignin gives lowered MeO content through hydrolysis. Exhaustive methylation by Me_2SO_4 gave products with 18.5% MeO; acetylation gave 21.4% Ac. The empirical formula is $C_{11}H_{14}O_{37}$, with 3 MeO and 4 OH groups.

G. M. Kosolapoff

A38-51A METALLURGICAL LITERATURE CLASSIFICATION



CHUDAKOV, M. I.

60/49T31

USSR/Chemistry - Wood chemistry
Chemistry - Lignin

"Natural Lignin From Lumber Which Has Been Destructively Decomposed," M. I. Chudakov, Far Eastern Sci Res Base for Acad Sci USSR, 7 3/4 pp

"Zhur Prik Khim" Vol XXII, No 4

Fermentation processes and the activity of saprophyte fungi break down the bonds between lignin and carbohydrate components in wood. Lignin compounds decompose on the surface, giving off methoxyl and other groups, which are subsequently oxidized into humic substances. After [illegible] lignin [illegible] lignin and cellulose are joined by ester bonds. Lignin, fractionation of the solvation, fractional extraction by ethyl alcohol gives a considerable yield of natural lignin, fractional extraction by ethyl alcohol gives up to 30%. Natural lignin contains 64% carbon is characterized by a higher content of methoxyls and lower content of carbon than cold lignin. Empirical formula for the former type include three methoxyl and four hydroxyl groups.

60/49T31

CHUDAKOV, M.I. - Cand. Tech. Sci.

USSR/Chemical Technology - Chemical Products and Their Application. Wood Chemistry Products. Cellulose and Its Manufacture. Paper, I-23

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 63355

Author: Chudakov, M. I., Sergeyev, A. P.

Institution: None

Title: New Method of Cooking Control

Original Periodical: Gidroliznaya i lesokhim. prom-st', 1955, No 2, 19

Abstract: A new method is proposed for control of discharge of hydrolyzate (I) with the withdrawal of varying volume of I. In the last portions of discharge I concentration of reducing substances (RS) is determined by rapid refractometric method. Percolation is discontinued at a concentration RS < 1.5%. Withdrawal of varying amounts of I made it possible to decrease duration of percolation on the average by 28 minutes and the volume of hydrolyzate obtained per cooking by 3.2 m^3. Average yield of RS per cooking has been decreased from 1.99 to 1.97 t but the sugar concentration of I increased from 3.09 to 3.22% and

Card 1/2

USSR/Chemical Technology - Chemical Products and Their Application. Wood Chemistry Products. Cellulose and Its Manufacture. Paper, I-23

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 63355

Abstract: alcohol concentration in the fermented liquor from 1.30 to 1.32%. Mean daily alcohol production has been increased by 6.5% over that of preceding month.

Card 2/2

M. I.

Stabilization of gypsum solution with dextrins. M. I. Chudakov, K. P. Vakhrushieva, and L. V. Lebedeva (Hydrolysis Plant, Kausk). *Gidrolis. i Lesokhim. Prom.* 8, No. 4, 20–1(1955).—Factors affecting the formation of supersatd. solns. of $CaSO_4$ in neutralization of H_2SO_4 hydrolyzates (I) are: temp., the rate of growth of crystal nuclei, the amt. of pptd. $CaSO_4$, the intensity of agitation, and the presence of colloidal org. compds. At 75–80° $CaSO_4.2H_2O$ is formed predominantly; higher temp. leads to the formation of $CaSO_4.\frac{1}{2}H_2O$ which, on cooling to 28–30°, gives supersatd. soln. The beneficial affect on the prevention of $CaSO_4$ deposits on fermentation equipment, experienced in filtering partially neutralized solns. through sawdust, has motivated the study of the influence of cellulose sugars (II) on $CaSO_4$ solns. Boiling the soln. (pH 4.1–4.2), taken from a sedimentation tank, with sawdust showed that these solns. contained more sol. $CaSO_4$ than untreated. In another expt., sawdust was treated with 72% H_2SO_4, the amt. of fermentable sugars detd., and the substrate added to I. The amt. of sol. $CaSO_4$ in I was almost twice as high as in the soln. without II. Neutralizing I with a mixt. of CaO and MgO led to a higher content of sulfate in the soln. as a result of the higher soly. of $MgSO_4$. T. Jurecic

MT

(2)

CHUDAKOV, M. I.

USSR/Chemical Technology - Chemical Products and Their Application. Wood Chemistry Products. Cellulose and Its Manufacture. Paper, I-23

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 63363

Author: Sukhanovskiy, S. I., Chudakov, M. I., Yakovenko, A. Z.

Institution: None

Title: Production of Active Hydrolysis Lignin for the Rubber Industry

Original Periodical: Gidroliznaya i lesokhim. prom-st', 1956, No 3, 13-14

Abstract: Maximum yield of activated lignin with least expenditure of alkali can be attained on using NaOH in an amount of 30% of the amount of initial lignin and carrying out the cooking at 180° for 4 hours. On decrease of the modulus from 10 to 6.2 and the amount of NaOH from 40 to 25% of the weight of hydrolysis lignin the yield of activated lignin decreases slightly and its concentration in the solution increases from 7 to 11%. At the same time concentration of the residual free NaOH decreases by more than 2 times, and its expenditure per one kg of activated lignin to 0.33-0.35 kg.

Card 1/1

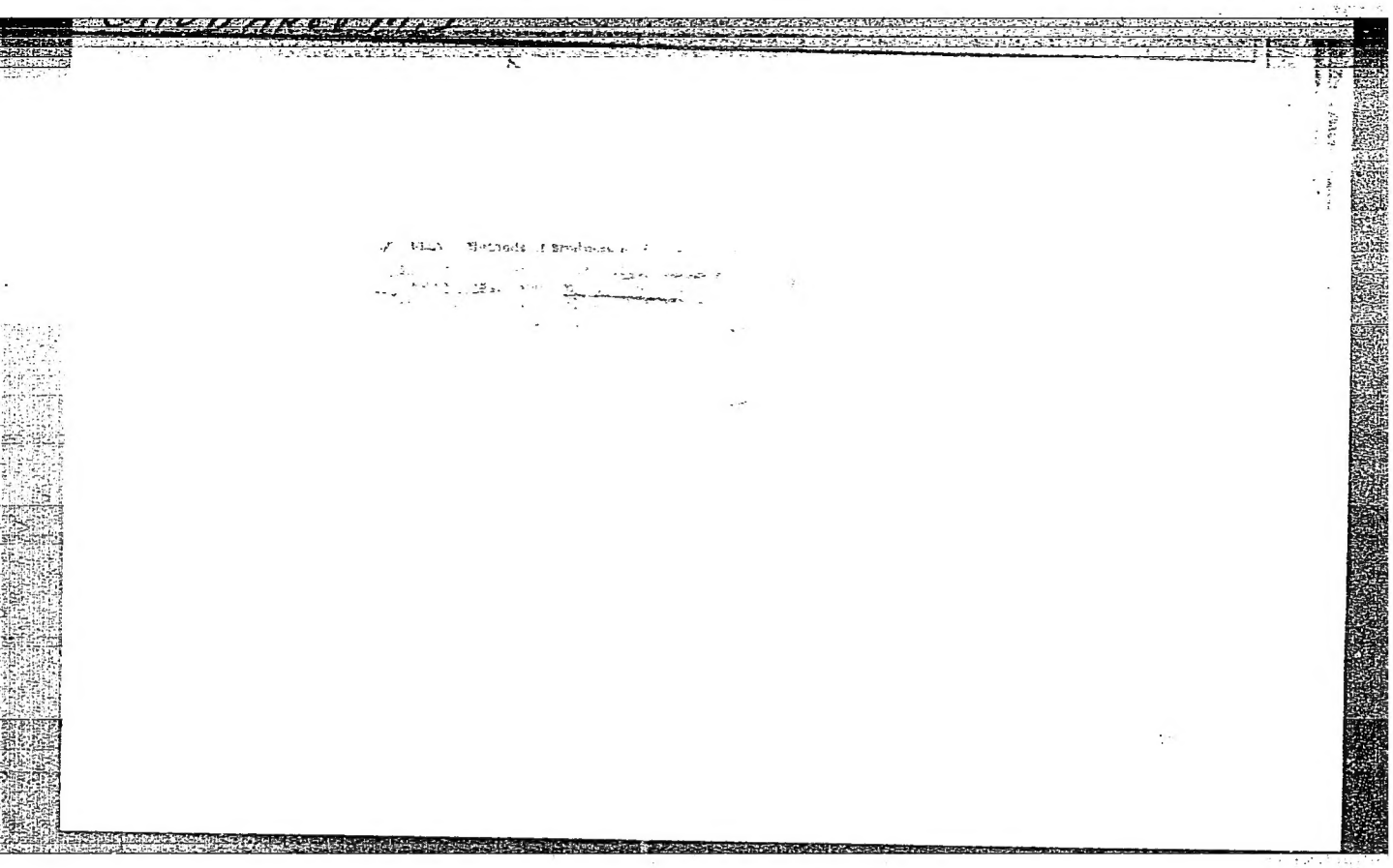
Chudakov, M.I.

Alkaline activation of hydrolytic lignin. S. I. Sykhanovskif and M. I. Chudakov. *Zhur. Priklad. Khim.* 29, 410–15 (1956).—The max. soly. (I) of lignin heated with aq. NaOH soln. is a function of the temp. and the percentage of NaOH (lignin basis). I at 160, 180, and 200° was 86.6, 90.4, and 98.2% with 120, 60, and 60% NaOH. The corresponding values of "lignin acid" (II) (pptd. with dil. H_2SO_4) were 63.0, 74.0, and 64.4% (sol. lignin basis). Activation at lower temps., 90–100°, in a current of CO_2-free air for 50 hrs. failed to increase I above 50% (cf. Nikitin, *Gidroliz. Prom.* 3, 3(1954)). At 200°, 25–30% of the MeO groups were lost and the proportion of OH groups increased by 10.2%. The insol. portion contained 25.1% ash. The solns. thus obtained contained 8–9% lignin. To reduce the bulk the following methods of dry activation were tried: (*a*) the lignin was ground with NaOH in the wet, dried at 105°, and heated at 180° for 1–3 hrs. I of 47.6, 55.2, 62.1, and 73.6% were obtained with 25% NaOH in 3 hrs., with 30% NaOH in 2 hrs., and with 35 and 40% NaOH in 1 hr. The corresponding values of II (not the max.) were 34.2, 38.6, 38.6, and 28.5%; (*b*) the dried mixt. of lignin and NaOH as in *a* was heated 3 hrs. at 200° in petrolatum (m. 45–50°). I increased from 75.3 to 97.2% as the NaOH proportion increased from 40 to 100%. The corresponding values of II decreased from 66.0 to 45%. I. Bencowitz

2

Mats

Chudakov, M. I.



CHUDAKOV M.I.

CHUDAKOV, M.I., kand.khim.nauk; NIKITIN, N.I.; SUKHANOVSKIY, S.I., kand.tekhn.nauk

Modern ideas on the chemistry and structure of lignin. Khim.nauka i prom. 2 no.4:408-415 '57. (MIRA 10:11)

1. Chlen-korrespondent AN SSSR (for Nikitin).
(Lignin)

CHUDAKOV, M.I.,

SUKHANOVSKIY, S.I., kand.tekhn.nauk; CHUDAKOV, M.I., kand.khim.nauk

Utilization of hydrolytic lignin. Khim.nauka i prom. 2 no.4:444-450 '57 (MIRA 10:11)

(Lignin)

CHUCHKOV, M.I.

USSR/Chemical Technology - Chemical Products and Their Application. Wood Chemistry Products, Hydrolysis Industry I-9

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2676

Author : Krasnova, A.P., Parshina, E.A., Sukhanovskiy, S.I., Chudakov, M.I.

Inst :

Title : Preparation of Oxalic Acid from Hydrolysis Lignin.

Orig Pub : Zh. prikl. khimii, 1957, No 5, 802-806

Abstract : It is shown sulfuric acid hydrolysate and hydrochloric acid lignin (L) can be produced 35 and 49%, respectively, of oxalic acid (I), by means of an oxidation of the L with HNO_3, specific gravity 1.38. The reaction is conducted with care: L is added into the acid in small increments, the reaction mixture is kept under observation until the exothermic reaction is completed (cooling of the reaction vessel with cold water or ice). The crystallization is carried out in two steps (I and II).

Card 1/2

USSR/Chemical Technology - Chemical Products and Their Application. Wood Chemistry Products. Hydrolysis Industry I-9

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2676

Consumption of HNO_3, to obtain 1 kg, varies with different samples of L within the range of 10.3-14.5 kg. Preparation of I is more promising from hydrochloric acid L.

Card 2/2

CHUDAKOV, M.I.

CHUDAKOV, M.I., kand. khim. nauk.

"Fundamentals of the chemistry and chemical technology of wood" by Wilhelm Sandermann. Reviewed by M.I. Chudakov. Gidrolis. i prom. 10 no.6:31-32 '57. (MIRA 10:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrolisnoy i sul'fitno-spirtovoy promyshlennosti.
(Wood--Chemistry)
(Sandermann, Wilhelm)

SUKHANOVSKIY, S.I.; CHUDAKOV, M.I.

Calcined lignin as a reinforcing agent for synthetic rubber. Gidroliz. i lesokhim. prom. 10 no.8:14-16 '57. (MIRA 10:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrolizmoy i sul'fitnospirtovoy promyshlennosti.
(Rubber, Synthetic) (Lignin)

CHUDAKOV, M. I.

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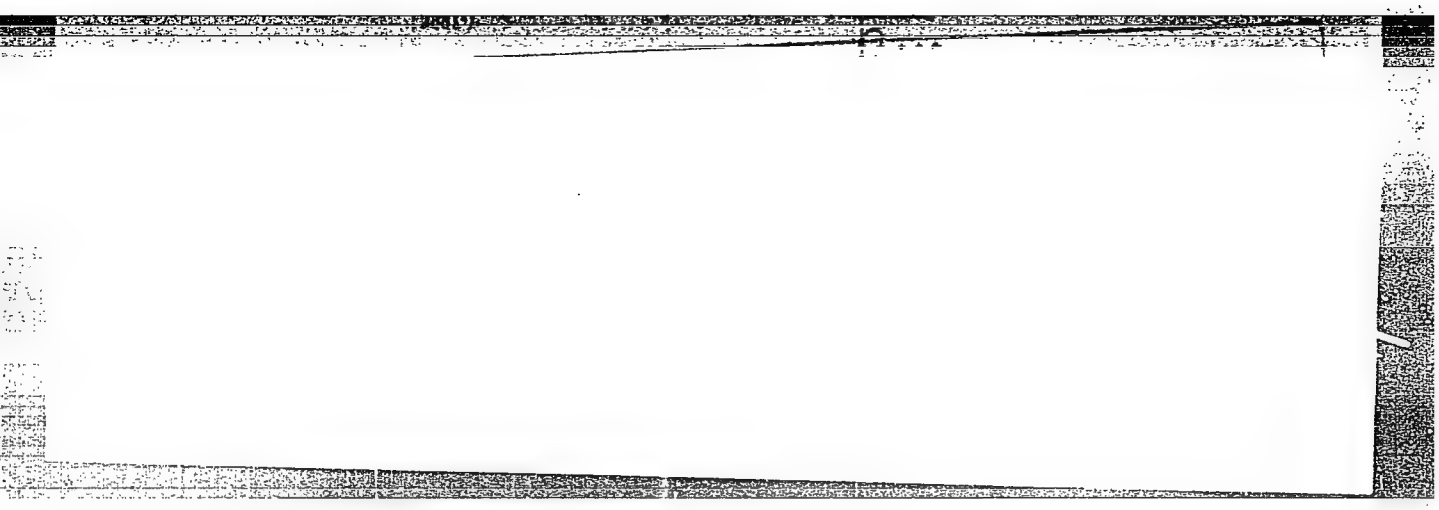

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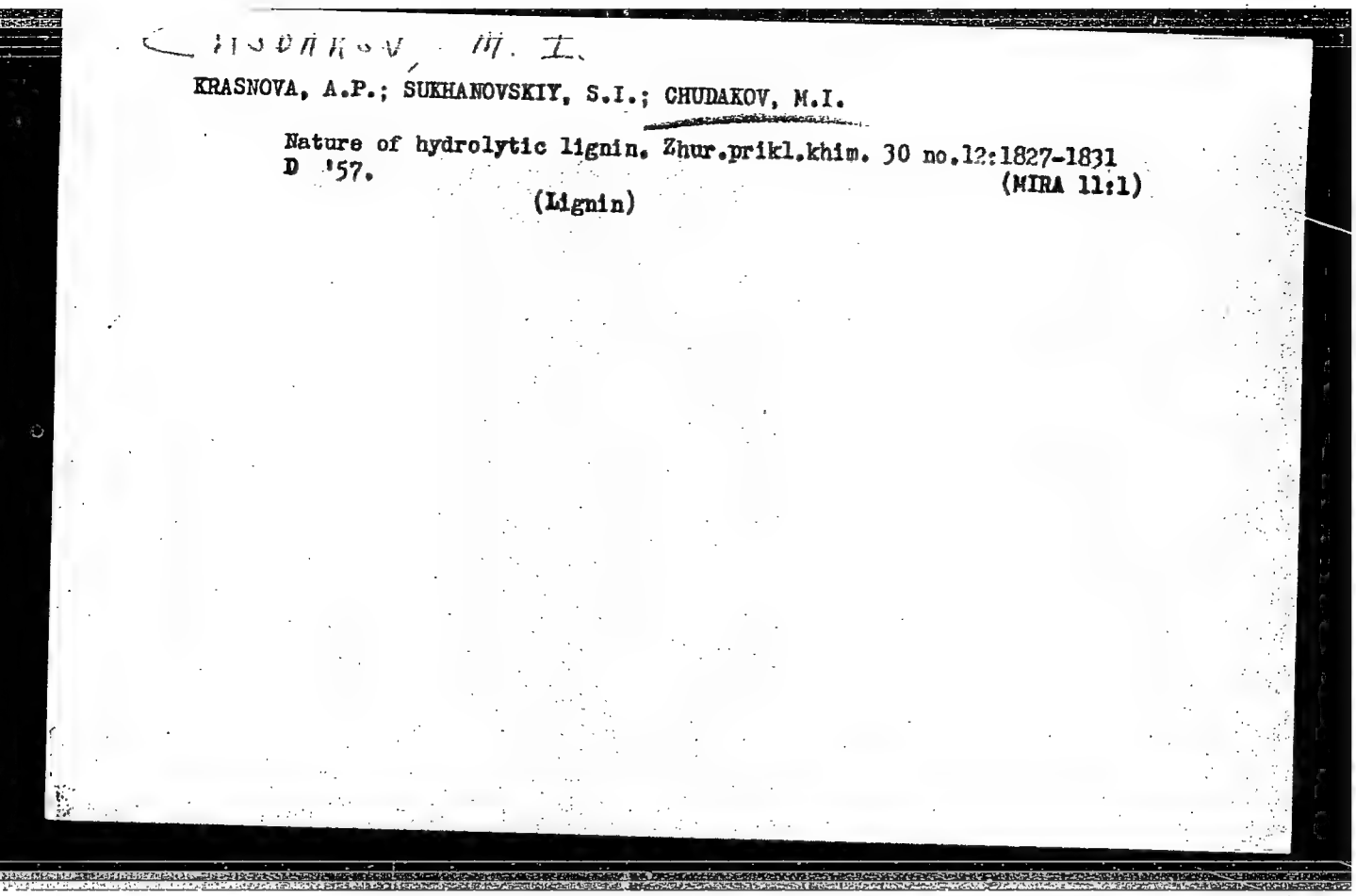

CHUDAKOV, M. I.

KRASNOVA, A.P.; SUKHANOVSKIY, S.I.; CHUDAKOV, M.I.

Nature of hydrolytic lignin. Zhur.prikl.khim. 30 no.12:1827-1831 D '57. (MIRA 11:1)

(Lignin)

SUKHANOVSKIY, S.I., kandidat tekhnicheskikh nauk; CHUDAKOV, M.I., kandidat khimicheskikh nauk.

Use of desulfonated lignin. Bum. prom. 32 no.2:8-9 F '57. (MLRA 10:5)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut gidrolizney i sul'fitno-spirtovoy promyshlennosti.
(Lignin)

CHUDAKOV, M.I.

Synthetic fibers from lignin. Gidrolis. i lesokhim. prom. 11 no.3: 32 '58. (MIRA 11:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrolizney i sul'fitno-spirtovoy promyshlennosti.
(Textile fibers, Synthetic) (Lignin)

MIL'NIKOV, N.P.; SUKHANOVSKIY, S.I.; CHUDAKOV, M.I.

Granulation of hydrolytic lignin. Gidroliz. i lesokhim.prom. 11 no.7:12-13 '58. (MIRA 11:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrolizmoy i sul'fitno-spirtovoy promyshlennosti.
(Lignin) (Carbon, Activated)

CHUDAKOV, M. I., kand.,khim. nauk

Acid condensation of lignin. Bum. prom. 33 no. 7:9-11 Jl '58.
(MIRA 11:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrolizney i sul'fitno-spirtovoy promyshlennosti.
(Lignin)
(Condensation products (Chemistry))

CHUDAKOV, M.I.

Use of lignin in the manufacture of chemicals. Gidroliz i lesokhim. prom. 12 no.4:29-30 '59. (MIRA 12:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrolizmoy i sul'fitno-spirtovoy promyshlennosti.
(Lignin)

OKUN', M.G.; SUKHANOVSKIY, S.I.; CHUDAKOV, M.I.; KRASNOVA, A.P.

Rapid method for determining lignin. Gidroliz i lesokhim. prom. 12 no.5:10-11 '59. (MIRA 12:10)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut gidrolizmoy i sul'fitno-spirtovoy promyshlennosti.
(Lignin)

5(3)

SOV/80-32-3-25/43

AUTHORS: Chudakov, M.I., Sukhanovskiy, S.I., Akimova, M.P.

TITLE: On the Benzoid Structure of Hydrolytic Lignin (O benzoidnoy strukture gidroliznogo lignina)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol XXXII, Nr 3, pp 608-613 (USSR)

ABSTRACT: The changes of the structure of technical lignins occurring during chemical and technical treatment are investigated here. Hydrolytic lignin gives 2.4% of benzenepolycarboxylic acids on oxidation. It has a benzoid structure which may be represented by five benzene rings connected by -C-C-bonds. The alkaline activation of hydrolytic benzene in aqueous solution at 180°C produces ligninic acids, in which the benzoid structures comprise 8%. These acids give 25.2% of polycarboxylic acids when oxidized, among them also mellitic acid. They are completely soluble in alkali and organic solvents. The carbon substance in lignin is arranged in a regular order by alkaline activation. It is characterized by the condensation of carbon into plane hexagonal lattices.

Card 1/2

On the Benzoid Structure of Hydrolytic Lignin SOV/80-32-3-25/43

There is 1 table and 13 references, 5 of which are Soviet, 4 English, 2 German, 1 Canadian, and 1 American.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut gidroliznoy i sul'fitnospirtovoy promyshlennosti (All-Union Scientific-Research Institute of the Hydrolytic and Sulfite-Alcohol Industry)

SUBMITTED: May 8, 1958

Card 2/2

CHUDAKOV, M.I., kand.khim.nauk

Chemical utilization of lignin. Bum.prom. 34 no.8:21-22 Ag '59. (MIRA 12:12)
(Lignin)

OKUN', M.G.; SKRYNNIK, I.V.; SUKHANOVSKIY, S.I.; CHUDAKOV, M.I.

Use of hydrolytic lignin in the manufacture of plastics. Gidroliz.i lesokhim.prom. 13 no.3:14-16 '60. (MIRA 13:7)

1. Nauchno-issledovatel'skiy institut gidrolizmoy i sul'fitno-spirtovoy promyshlennosti.
(Lignin) (Plastics)

CHUDAKOV, M.I.; GEORGIYEVSKAYA, G.D.

Determination of phenolic hydroxyl groups in commercial lignins by the potentiometric method. Zhur.anal.khim. 15 no.3:347-352 My-Je '60. (MIRA 13:7)

1. All-Union Scientific Research Institute of Hydrolysis and Sulphite-Alcohol Industry, Leningrad.
(Lignin) (Hydroxyl group)

CHUDAKOV, M.I.; SUKHANOVSKIY, S.I.; LEVIT, R.M.; SOROKIN, Ya.Z.

Coal from hydrolytic lignin as a starting material in the production of carbon disulfide. Gidroliz. i lesokhim. prom. 14 no. 1:3-5 '61. (MIRA 14:1)

1. Nauchno-issledovatel'skiy institut gidrolizney i sul'fitno-spirtovoy promyshlennosti (for Chudakov, Sukhanovskiy). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna (for Levit, Sorokin).

(Carbon disulfide) (Lignin)

CHUDAKOV, M.I.

Lignin. Usp. khim. 30 no.2:184-219 F '61. (MIRA 14:2)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut gidrolizno i sul'fitno-spirtovoy promyshlennosti.
(Lignin)

CHUDAKOV, M.I.; KRASNOVA, A.P.

Production of benzenepolycarboxylic acids from hydrolytic lignin by oxidation with alkali permanganate. Zhur. prikl. khim. 34 no.12:2754-2760 D '61. (MIRA 15:1)

(Benzenecarboxylic acids) (Lignin)

CHUDAKOV, M.I.; KRASNOVA, A.P.

Production of benzenepolycarboxylic acids from hydrolytic lignin by oxidation with nitric acid. Zhur. prikl. khim. 34 no. 12:2760-2764 D '61. (MIRA 15:1)

(Benzenecarboxylic acids) (Lignin)

CHUDAKOV, M.I.

New products from woodpulp and paper industry wastes. Bum.prom. 36 no.4:31 Ap '61. (MIRA 14:5)
(United States--Woodpulp industry--By-products)

CHUDAKOV, M.I.

Secondary aromatic polynuclear structure of lignin. Dokl.AN SSSR 137 no.6:1389-1392 Ap '61. (MIRA 14:4)

1. Predstavleno akademikom A.A.Balandinym.
(Lignin)

CHUDAKOV, Mikhail Il'ich, kand.khim.nauk; OKUN', M.G., red.; FILIMONOVA, A.I., red.izd-va; GRECHISHCHEVA, V.I., tekhn. red.

[Industrial utilization of lignin] Promyshlennoe ispol'zovanie lignina. Moskva, Goslesbumizdat, 1962. 181 p. (MIRA 15:7)
(Lignin)

CHUDAKOV, M.I.; OKUN', M.G.

Production of nitrophenols from hydrolysis lignin. Zhur. prikl.khim. 35 no.7:1602-1604 Jl '62. (MIRA 15:8)
(Phenol) (Lignin)

S/081/63/000/004/051/051
B156/B180

AUTHOR: Chudakov, M. I.

TITLE: Activated alkaline hydrolysis lignine as an active filler for synthetic rubber

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 4, 1963, 650, abstract 4T366 (Khim. pererabotka drevesiny. Nauchno-tekhn. sb., no. 4, 1962, 25 - 36)

TEXT: To activate lignine produced by hydrolysis it is boiled in the hydrolysis apparatus in an alkali solution the ratio of alkali to lignine 0.4:1 and the temperature 180 - 200°C, for 6 - 8 h. 90 - 95 % of the lignine passes into solution. A mixture of 25 % CKMC-30 (SKMS-30) latex, an alkaline solution of lignin (19.5 % "ligninic acids", i.e. lignine separated out of solution during acidification) and avtol 18, 15 parts by weight of oil and 20 parts by weight of lignine to the rubber at pH 10 and 40°, is mixed in a 10 % solution of CH_3COOH and water at 60°C. The mixture is poured into a coagulating solution of $CaCl_2$. The suspension obtained is passed to a strip-casting machine for washing. Strip is not, however,

Card 1/2

formed and the mixture is dried in friable form, in a special drier. The consumptions per ton of the lignin-and-oil-filled rubber are 46 kg of $CaCl_2$, 47 kg of CH_3COOH, and 7 tons of water. With a single volumetric filling, the SKMS-30 vulcanizates containing lignin or gas channel black have almost identical physical and mechanical properties. At the Krasnoyarsk hydrolysis works it has been found economically possible to produce activated alkaline lignine for use at the Krasnoyarsk synthetic rubber works. A ton of dry commercial lignine costs 170 rubles.

[Abstracter's note: Complete translation.]

S/081/63/000/004/051/051
B156/B180

AUTHOR: Chudakov, M. I.

TITLE: Activated alkaline hydrolysis lignine as an active filler for synthetic rubber

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 4, 1963, 650, abstract 4T366 (Khim. pererabotka drevesiny. Nauchno-tekhn. sb., no. 4, 1962, 25 - 36)

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Card 1/2

Activated alkaline hydrolysis ...

S/081/63/000/004/051/051
B156/B180

formed and the mixture is dried, in friable form, in a special drier. The consumptions per ton of the lignin-and-oil-filled rubber are 46 kg of $CaCl_2$, 47 kg of CH_3COOH, and 7 tons of water. With a single volumetric filling, the SKMS-30 vulcanizates containing lignin or gas channel black have almost identical physical and mechanical properties. At the Krasnoyarsk hydrolysis works it has been found economically possible to produce activated alkaline lignin for use at the Krasnoyarsk synthetic rubber works. A ton of dry commercial lignin costs 170 rubles.
[Abstracter's note: Complete translation.]

Card 2/2

L 33032-66 EWT(1) RO

ACC NR: AP6024160 SOURCE CODE: UR/0020/65/164/003/0598/0601

AUTHOR: Chudakov, M. I.; Antipova, A. V.; Polyak, A. D.; Raskin, M. N. 46 B

ORG: All-Union Scientific Research Institute of the Hydrolysis and Alcoholic Sulfite Industry (Vsesoyuznyy nauchno-issledovatel'skiy institut gidroliznoy i sul'fitno-spirtovoy promyshlennosti)

TITLE: Obtaining quinonic nitropolycarboxylic acids — plant growth stimulants from hydrolytic lignin

SOURCE: AN SSSR. Doklady, v. 164, no. 3, 1965, 598-601

TOPIC TAGS: hydrolysis, plant growth, organic nitro compound, molecular weight, quinone, chemical reactor, polysaccharide, solvent extraction, chemical precipitation, polycarboxylic acid, biochemistry, oxidation

ABSTRACT: The authors have developed and applied a method of fractional, gradual oxidation and hydrolysis of condensed lignin with nitric acid in an aqueous medium at 100°. The gradual introduction of the oxidant in the reaction mixture leads to a minimum breakdown in the quinonic acids formed and permits the process to be carried out for a small consumption of oxidant. As the object of the investigation, different kinds of technical lignins subjected to prolonged condensation treatment were used. Lignin (lignin content, according to Koenig, was 85 - 90%, OCH_3 -- 4.7 - 5%) in the amount of 500 grams in 5 liters of water -- was placed into a stainless steel reactor fitted with cooling coils, a reflux condenser, a mixer, and an electric heating attachment. The suspension of lignin in water was heated to 100°. After the mixer had stirred the mixture gradually

Card 1/2

0915 1948

for six hours, nitric acid (1.35) was added in the amount of 0.75 kg (based on the calculation for the monohydrate), with a gradual supply of heated air into the lower part of the reactor. The reaction proceeded vigorously with the evolution of gaseous products and in some cases required cooling. At the completion of the reaction, the solution containing only traces of nitric acid was filtered free of the insoluble residue and was neutralized with calcium carbonate to pH 2.8 - 3. In order to isolate the quinonic acids, the solution was further extracted with methylethylketone. The extract was dried with sodium sulfate. After separation of a larger part of the solvent in vacuum, a thick syrup was poured into dry petroleum ether. The precipitating dark-red oil was separated from the other, dried in a vacuum drier at 40° and in a vacuum dessicator over alkali, and then over phosphoric anhydride for a period of a week. The yield was up to 30% of the lignin weight used. The resulting brick-red, very hygroscopic powder dissolved readily in water and in polar organic solvents.

In investigating its properties, the fraction dissolved when heated in dioxane was used. The product was titrated potentiometrically in an aqueous solution as a strong acid. Its molecular weight (cryoscopically determined) in dioxane was 286. The gram-equivalent was 132. The content of carboxylic groups in the molecule is approximately two. Elemental composition (in %) was as follows: C -- 45.1, H -- 3.74, O -- 45.84, and N -- 5.32.

Upon comparison of experimental and calculated data (elemental composition, molecular weight, gram-equivalent, and infrared spectra), it is assumed that the products obtained by the authors can be classed as quinonic nitropolycarboxyli acids. This paper was presented by Academician A. L. Kursanov on 23 November 1964. Orig. art. has: 2 figures. [JPRS]

SUB CODE: 07, 06 / SUBM DATE: 19Nov64 / ORIG REF: 006 / OTH REF: 006

Card 2/2

CHEBAKOV, N. G.

Zametka o raspredelenii prostykh chisel. Saraton, Uchen. zap. un-ta, 13:1 (1935), 79.

So: Mathematics in the USSR, 1917-1947
edited by Kurosh, A. G.
Markushevich, A. I.
Rashevskiy, P. K.
Moscow-Leningrad, 1948

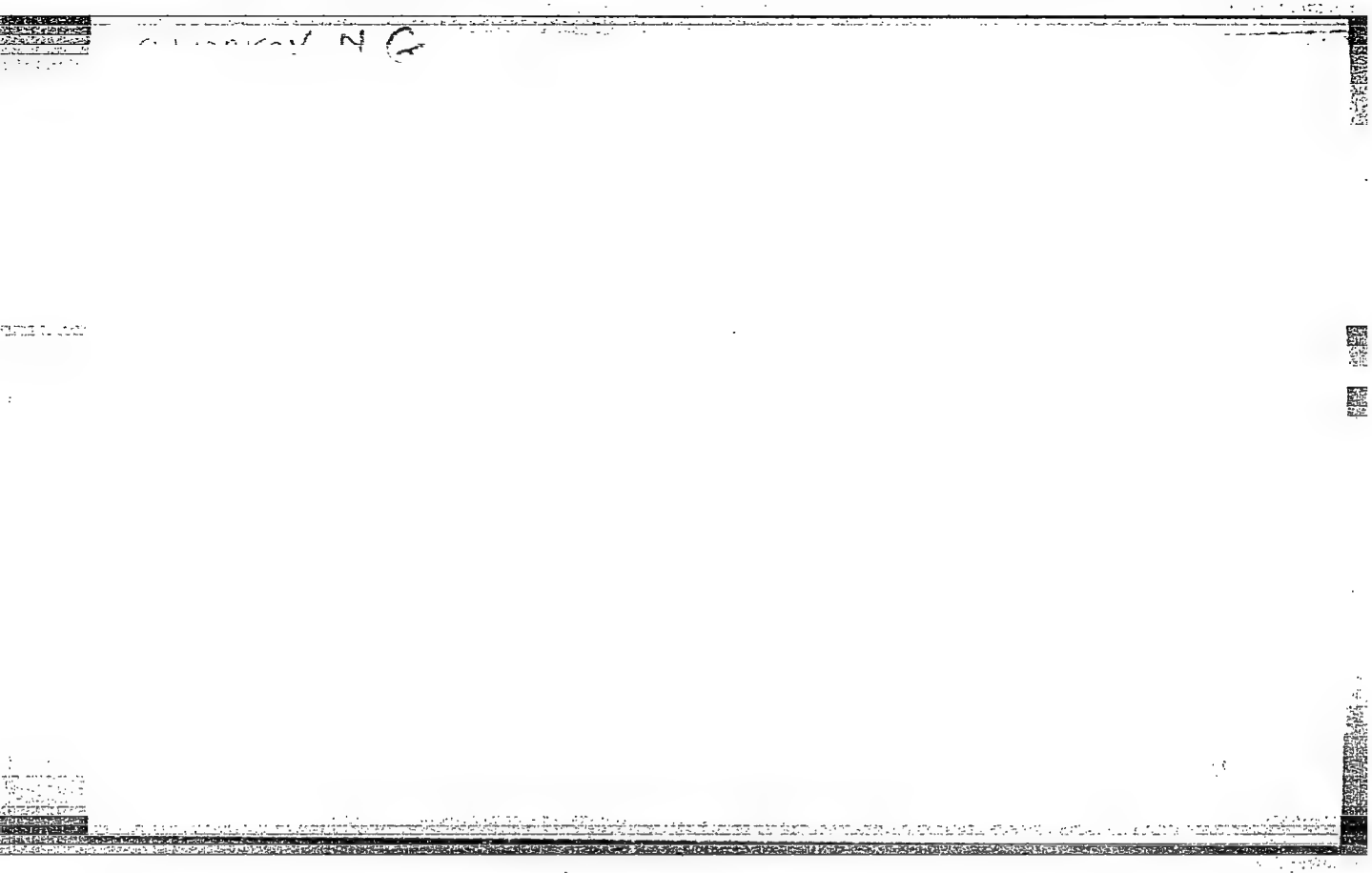
CHUDAKOV, N. G.

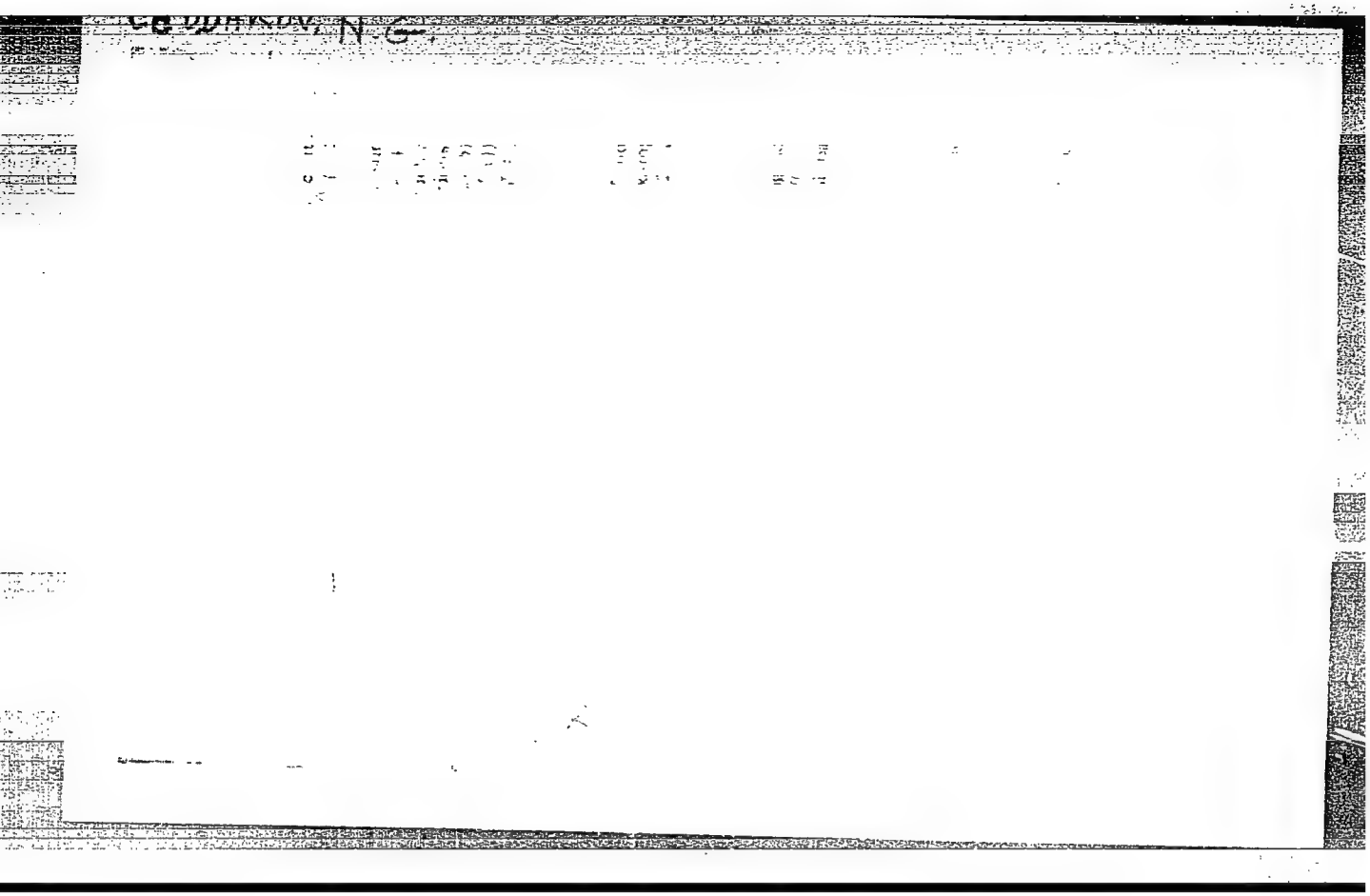
"On Certain Sums Occurring in the Analytic Theory of Numbers," Dokl. AN SSSR, 42, No.8, 1943

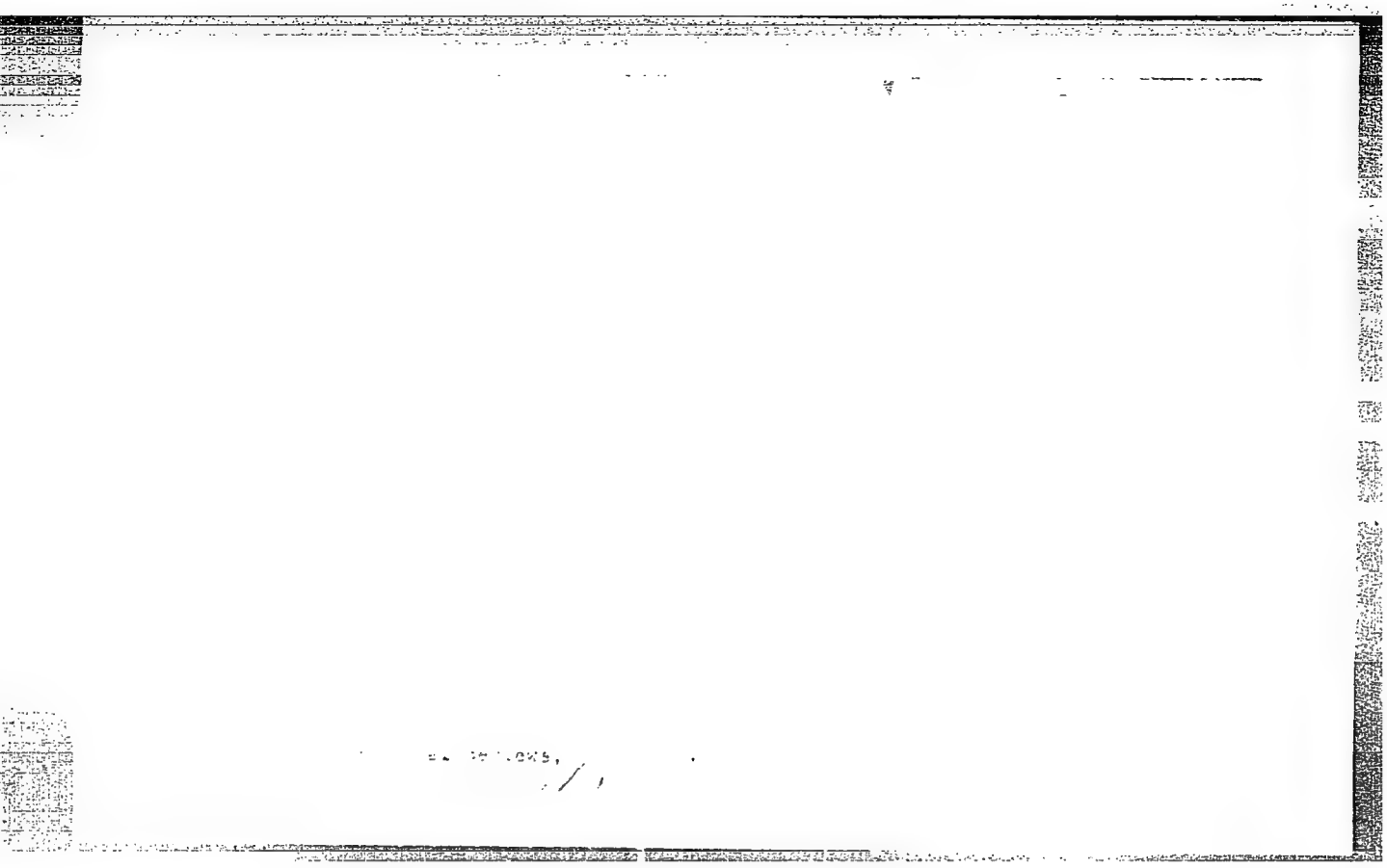
CHEBOTAREV, N. G.

O nulyakh L-funktsiy Dirikhle. D. A. N. 49 (1945), 89-91.

So: Mathematics in the USSR, 1917-1947
edited by Kurosh, A. G.
Markushevich, A. I.
Rashevskiy, P. K.
Moscow-Leningrad, 1948







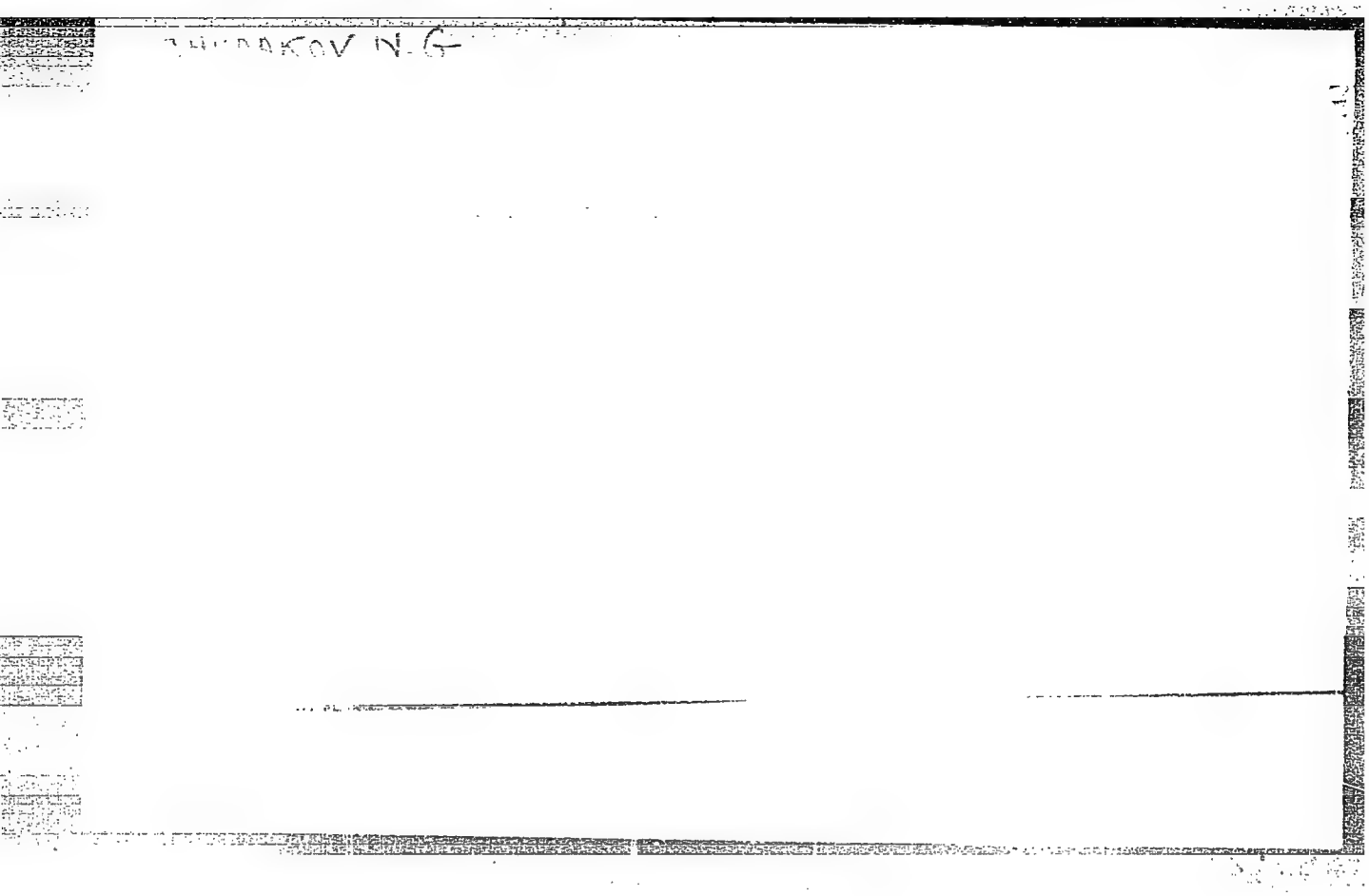
1. CHUDAKOV, Professor N. G.

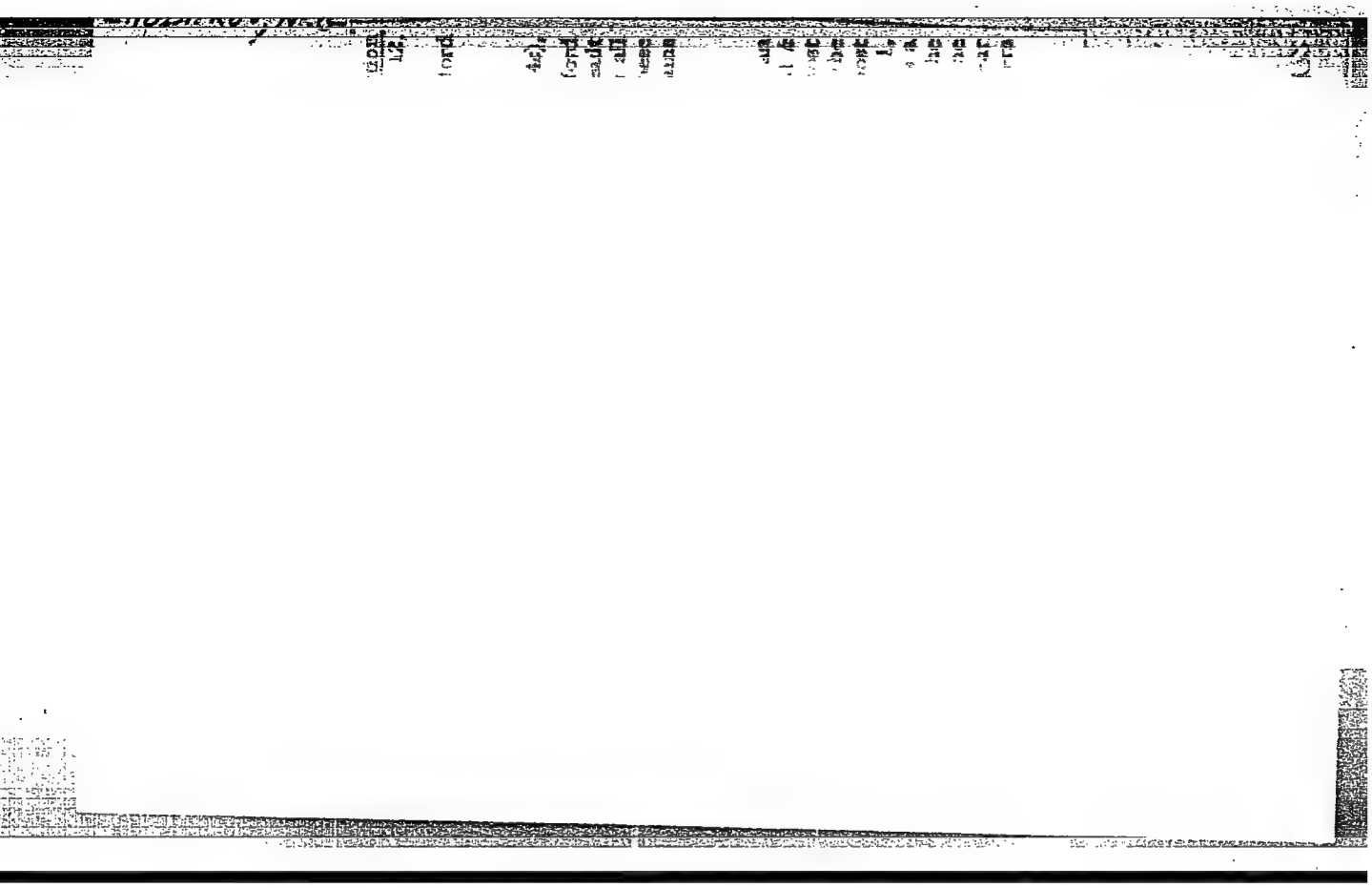
2. USSR (600)

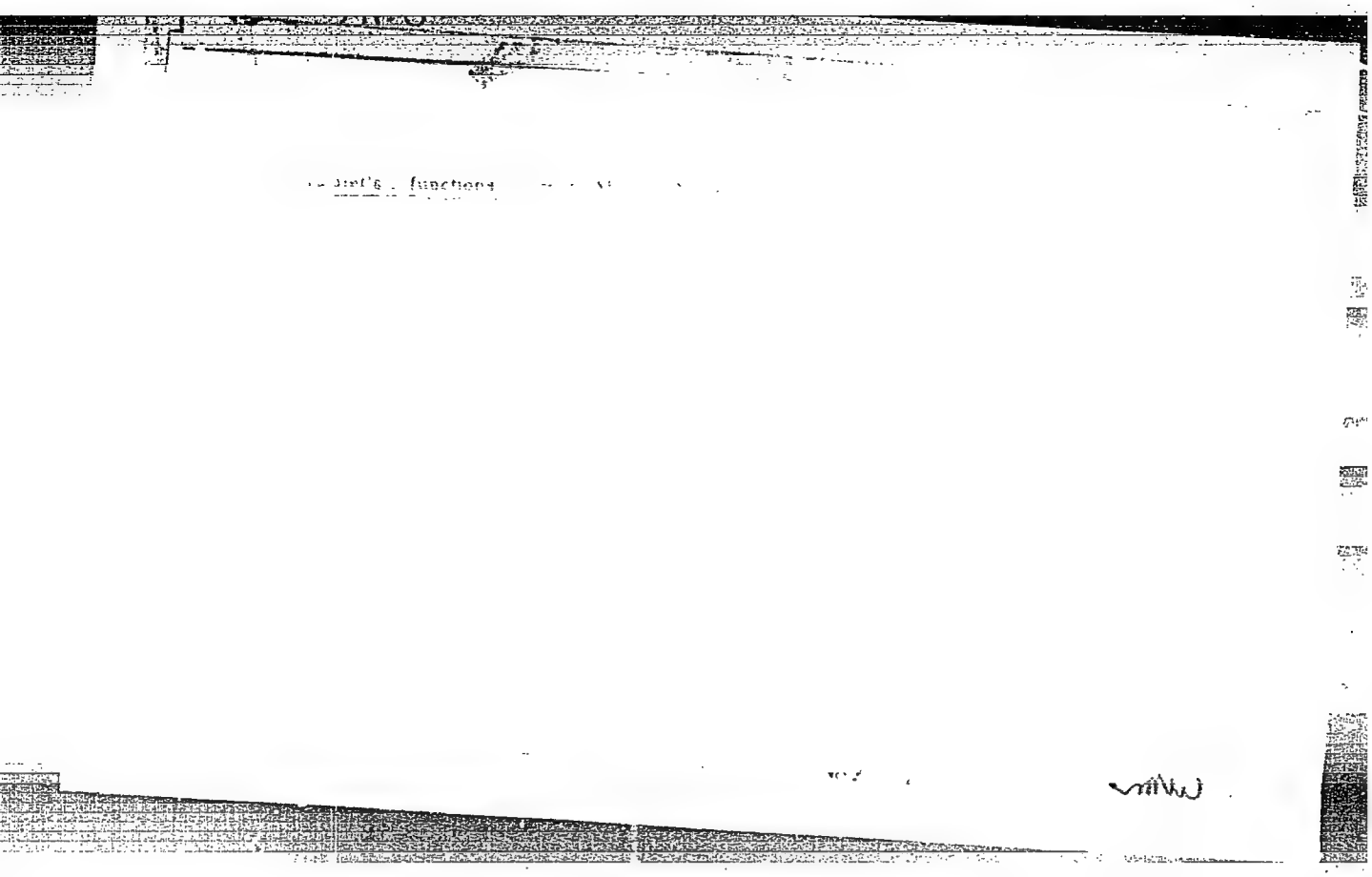
4. Physics and Mathematics

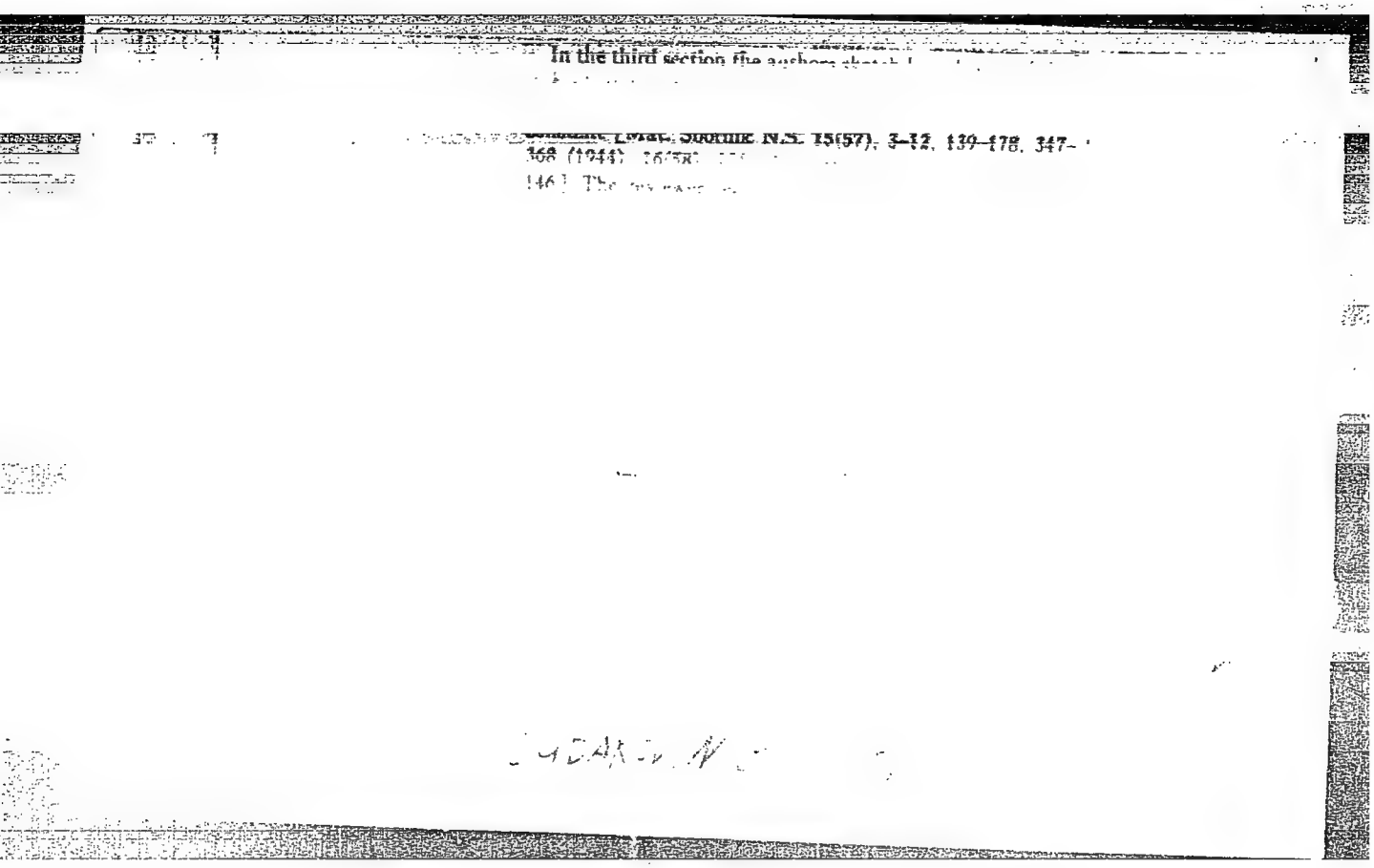
7. Introduction to the Theory of Dirichlet's L-Functions, Professor N.G. Chudakov. (Moscow, State Technical Press, 1947). Reviewed by Yu. V. Linnik, Sov. Kniga, No. 4, 1948.

9. [redacted] Report U-3081, 16 Jan. 1953, Unclassified.





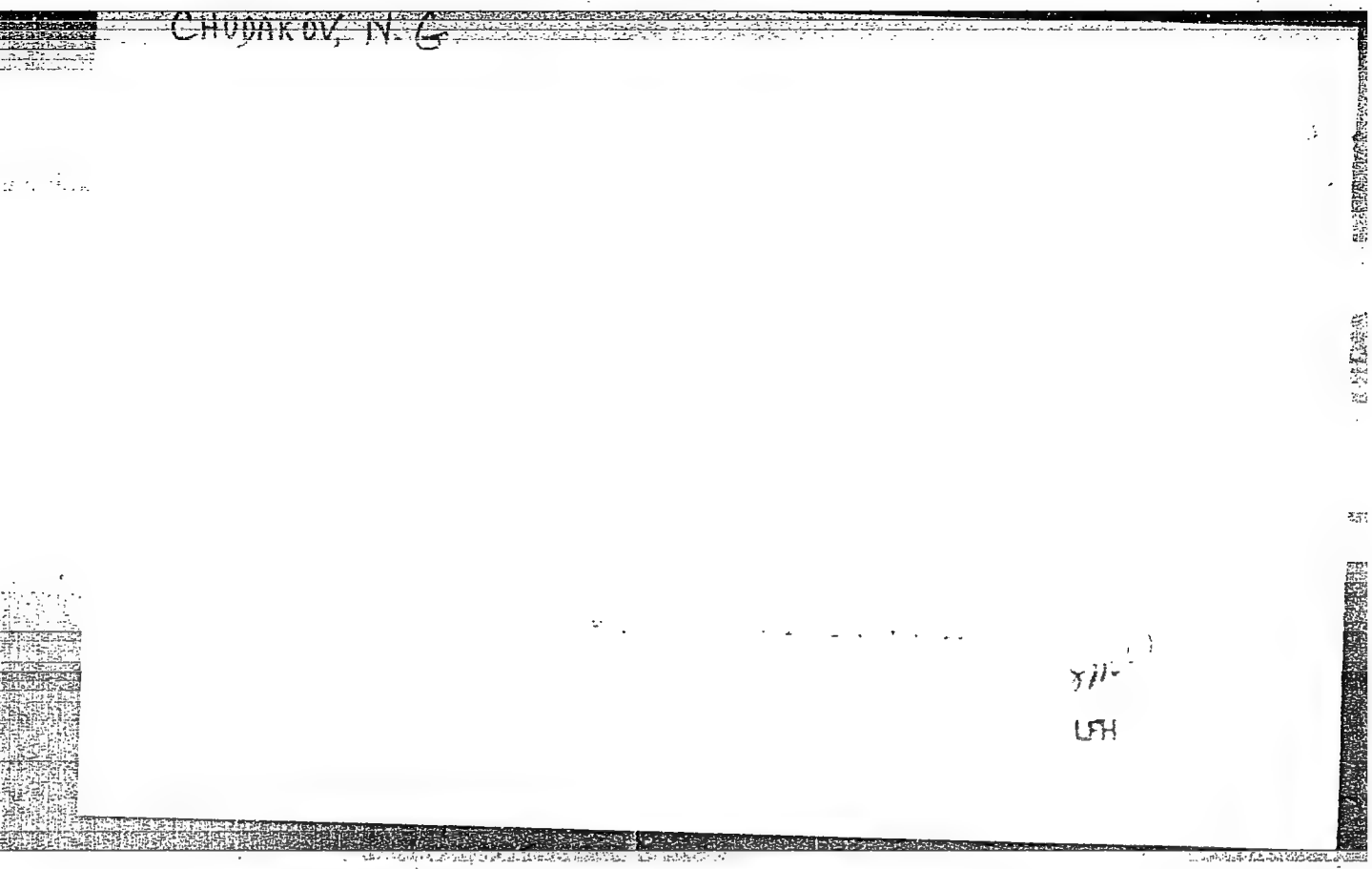


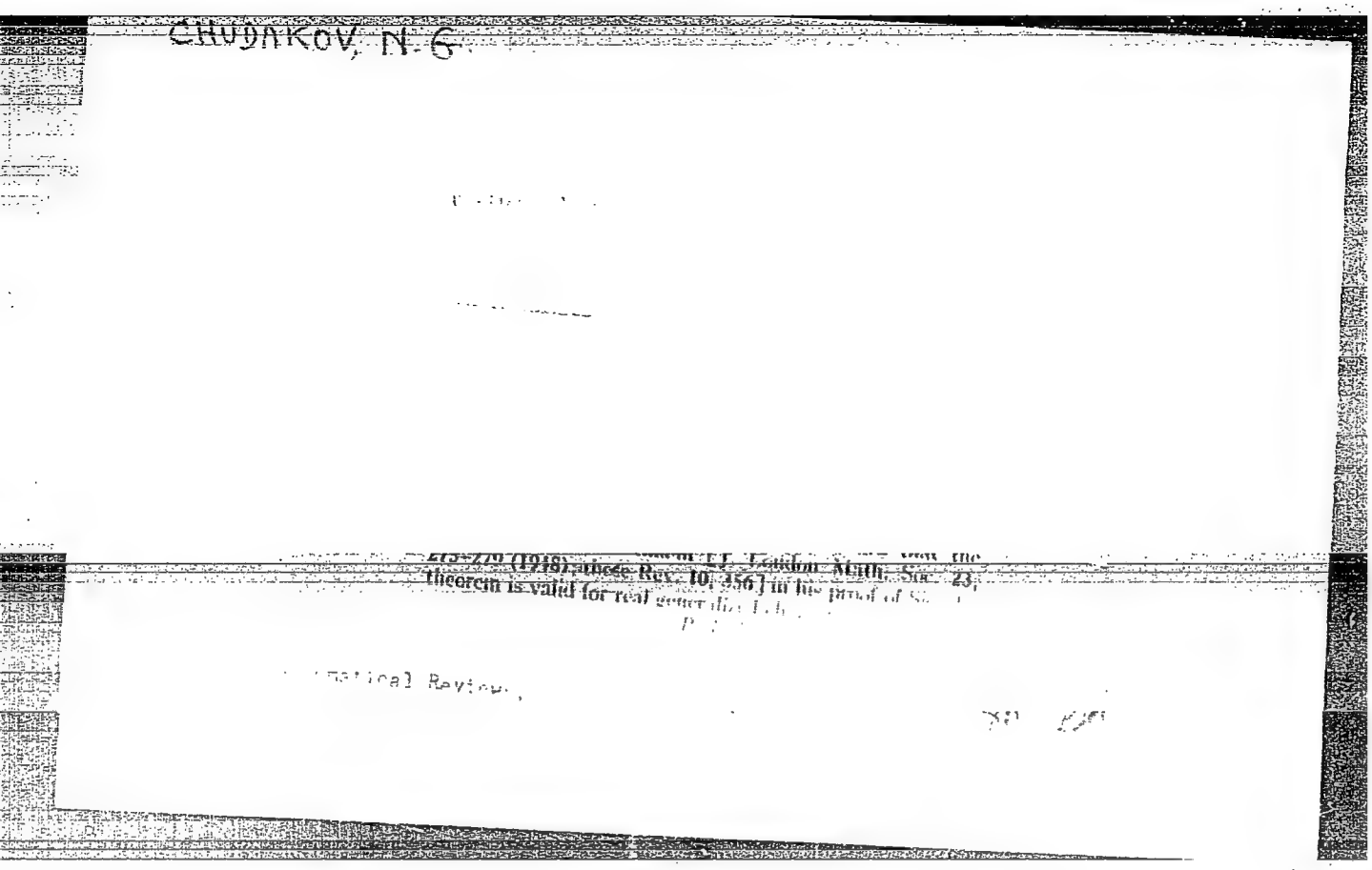


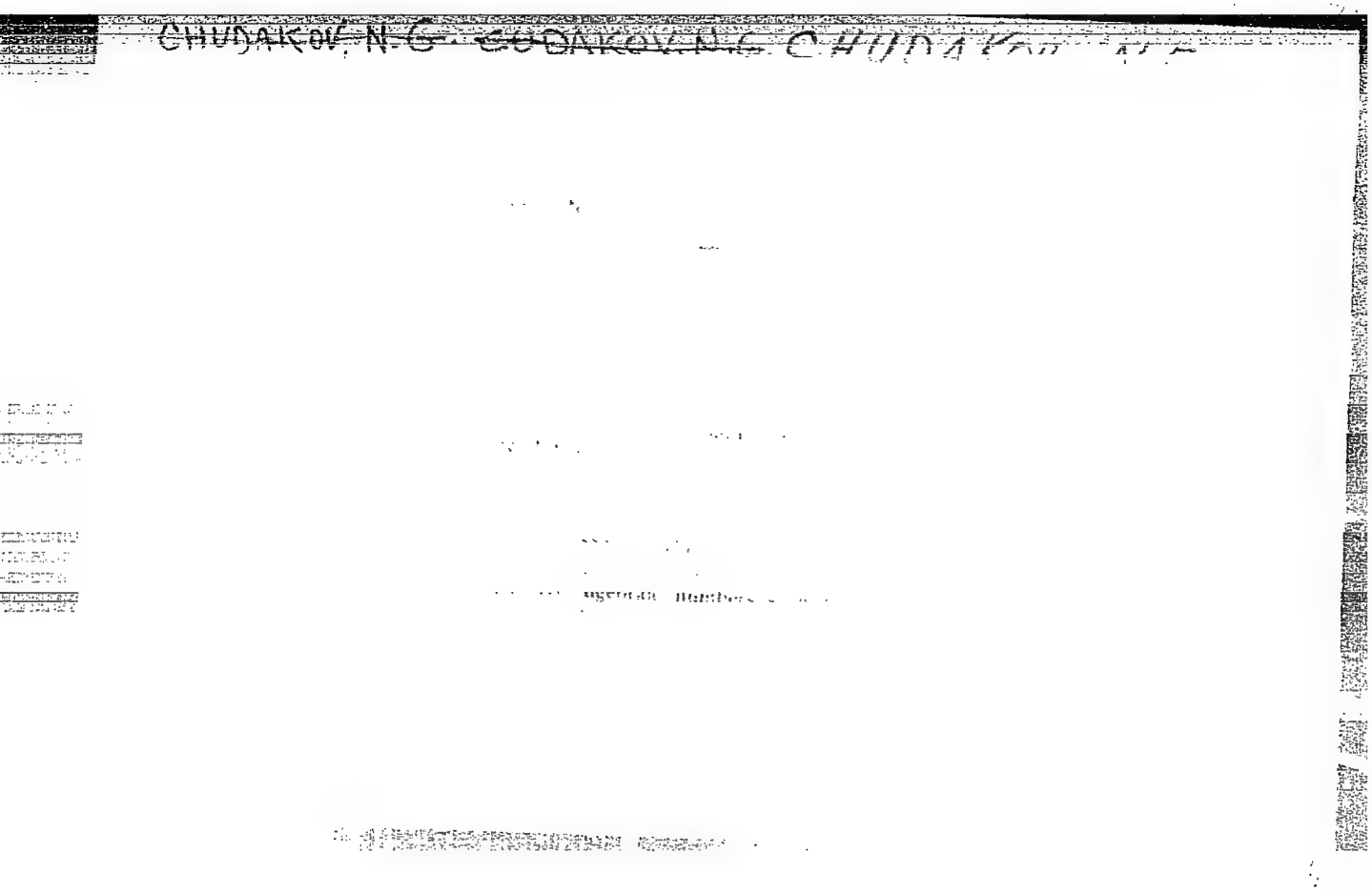
In the third section the authors show [illegible]

[illegible] Math. Soobshch. N.S. 15(57), 3–12, 139–178, 347–368 (1944). [illegible]

[illegible]







CHUDAKOV, N. G.

Theory of Numbers

Alegbraic independence of values of an exponential function. Ukr. mat. zhur. 3, No. 2, 1951.

SO: Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

CHUDAKOV, N. G.

Mathematical Reviews
Vol. 15 No. 2
Feb. 1954
Number Theory

Čudakov, N. G., and Pavlyučuk, A. K. On summation functions of characters of numerical groups with a finite basis. Trudy Mat. Inst. Steklov., v. 38, pp. 366–381. Izdat. Akad. Nauk SSSR, Moscow, 1951. (Russian) 20 rubles.

Suppose $\mathfrak{G}$ is a multiplicative group of positive algebraic numbers with a finite basis $\omega_1, \omega_2, \cdots, \omega_p$, where we assume $\omega_k > 1$ for $k = 1, 2, \cdots, p$. Let $\mathfrak{S}$ be the semigroup generated by $\omega_1, \omega_2, \cdots, \omega_p$. Suppose χ is a (not necessarily bounded) character of $\mathfrak{G}$, that is a homomorphism of $\mathfrak{G}$ into the multiplicative group of non-zero complex numbers. Let H be the function defined on the non-negative real numbers by the formula $H(x) = \sum_{\alpha \in \mathfrak{S}, \alpha \leq \exp x} \chi(\alpha)$. Suppose $\sigma_0 = \max_{1 \leq k \leq p} (\log|\chi(\omega_k)|)/(\log \omega_k)$ and q is the number of values of k for which $\sigma_0 = (\log|\chi(\omega_k)|)/(\log \omega_k)$. Then the authors prove the following assertions about the behavior of $H(x)$ as $x \to \infty$. (1) If $\sigma_0 < 0$, then $H(x)$ is bounded. (2) If $\sigma_0 = 0$, $q = 1$, and $\chi(\omega_k) \neq 1$ for all k, then $H(x)$ is bounded. (3) If $\sigma_0 = 0$ and $\chi(\omega_k) = 1$ for some k, then $H(x) = \Omega(x)$. (4) If $\sigma_0 = 0$ and $q \geq 2$, then $H(x) = \Omega((\log \log \log x)^{\frac{1}{2}})$. (5) If $\sigma_0 > 0$, then $H(x) = \Omega(x^{-1} e^{\sigma_0 x})$. Although (1) and (2) are almost trivial, the proofs of (3), (4), and (5) require delicate methods from analytic number theory due to Vinogradov, Gelfond, and Linnik. A particular case of the above is a result of Čudakov and Linnik [Doklady Akad. Nauk SSSR (N.S.) 74, 193–196 (1950); these Rev. 12, 393] to the effect that if $\mathfrak{G}$ is a multiplicative subgroup of the positive rationals generated by a finite set $\mathfrak{P}$ of prime numbers and if χ is a bounded character of $\mathfrak{G}$, then $H(x)$ is bounded if and only if $\mathfrak{P}$ contains exactly one prime number and χ is not the principal character of $\mathfrak{G}$.

P. T. Bateman.

ČUDAKOV, N. G.

Mathematical Reviews
Vol. 15 No. 4
Apr. 1954
Number Theory

8-24-54
LL

Čudakov, N. G. On a class of completely multiplicative functions. Uspehi Matem. Nauk (N.S.) 8, no. 3(55), 149–150 (1953). (Russian)

Suppose l is a non-zero real number and χ is a non-principal residue-character, and let h be the function defined on the positive integers by the equality $h(n)=\chi(n)n^{il}$. The author proves that h is not a residue-character but nevertheless shares with residue-characters the property that $\sum_{n\le x}h(n)$ is bounded. In the terminology of earlier papers [Čudakov and Rodosskiĭ, Doklady Akad. Nauk. SSSR (N.S.) 73, 1137–1139 (1950); these Rev. 12, 393; Čudakov and Linnik, ibid. 74, 193–196 (1950); these Rev. 12, 393; Kubilyus and Linnik, Trudy Mat. Inst. Steklov. 38, 170–172 (1951); these Rev. 15, 103], this shows that the function h is a generalized character which is not a residue-character and which has an infinite basis. It is unknown whether or not there exist other generalized characters with these two properties. *P. T. Bateman* (Urbana, Ill.)

(4) Natl

CHUDAKOV, N. G.

USSR/Mathematics - Number Theory 260T78

11 Jun 53

"Characters of Numerical Subgroups With Sufficiently Sparse Basis," B. M. Bredikhin

DAN SSSR, Vol 90, No 5, pp 707-710

Generalizes results for summatory functions of characters of numerical subgroups with finite basis (see N. G. Chudakov and A. K. Pavlyuchuk, Trudy Matemat In-ta imeni Steklova, 38, 366 (1951)) for the case of an infinite sufficiently sparse basis. Author's aim is to demonstrate the following theorem: if one of the normed characters is

260T78

$\chi(w_k)=1$ and the finite number $N(x)$ of basic numbers of subgroup G is given by $N(x)=O(\lg x)$, then the summatory function $H(x)$ of character $\chi(a)$ is given by $H(x)=O(x^m)$ $(0<m<1)$. Acknowledges advice of Prof N. G. Chudakov. Presented by I. M. Vinogradov 10 Apr 53.

Chudakov, N. G.

Call Nr: AF 1108825

Transactions of the Third All-union Mathematical Congress (Cont.) Moscow, Jun-Jul '56, Trudy '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp. There are 9 references, 6 of which are USSR, 2 English, and 1 German.

Freyman, G. A. (Kazan'). On one Elementary Method of the Theory of Numbers and the Theory of Probabilities. 14

Chudakov, N. G. (Saratov). Classification of Characters of Number Semigroups. 15-16

Mention is made of Bredikhin, V. N. and Bronshteyn, B. S.

Shidlovskiy, A. B. (Moscow). One one Class of Transcendent. 15-16

There are 4 references, 2 of which are USSR, 1 English, and 1 German.

Algebra Section 17-41

Card 6/80

CHUDAKOV, N.G. (Saratov); BREDIKHIN, B.M. (Saratov).

Use of the Parseval equation for the evaluations of summable functions of the characters of numerical semigroups. Ukr. mat. zhur. 8 no.4:347-360 '56. (MLRA 10:4)

(Numbers, Theory of)

GEL'FOND, A.O.; LINNIK, Yu.V.; CHUDAKOV, N.G.; YAKUBOVICH, V.A.; LINNIK, IU.V.; CHUDAKOV, N.G.; IAKUBOVICH, V.A.

An incorrect work of N.I.Gavrilov. Usp.mat.nauk 17 no.1:265-267 Ja-F '62. (MIRA 15:3)

(Functions, Zeta)
(Gavrilov, N.I.)

LIBER, A.Ye.; CHUDAKOV, N.G.

Mathematics at Saratov. Usp. mat. nauk 18 no.2:235-238 Mr-Ap '63. (MIRA 16:8)
(Saratov--Mathematics)

BARBAN, M.B.; LINNIK, Yu.V.; CHUDAKOV, N.G.

Distribution of primes in short progressions mod p^n.
Dokl. AN SSSR 154 no.4:751-753 F '64. (MIRA 17:3)

1. Leningradskoye otdeleniye Matematicheskogo instituta im. V.A. Steklova AN SSSR. 2. Chlen-korrespondent AN SSSR (for Linnik).

AR5013622

SOURCE: Ref. zh. Matematika, Abs. 4A93

AUTHOR: Chudakov, N. G.

TITLE: On periodic numerical functions

CITED SOURCE: Sb. Nekotoryye vopr. teorii poley. Saratov, Saratovsk. un-t, 1964, 3-5

TOPIC TAGS: numerical function, periodic function, ring, polyadic number, continuation

TRANSLATION: Let Z be a ring of integer rational numbers and r a ring of polyadic numbers (RZhMat 1961, 10A157). It is proved that each finite-value periodic function specified on Z can be continued over the entire ring r. this continued function is continuous everywhere; conversely, each finite-value function which is continuous everywhere has an integer period on Z. It is deduced from this that any Dirichlet character is continuable on the ring r, the continued function being continuous

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L 58432-65

ACCESSION NR: AR5013622

and fully multiplicative; it is called the Dirichlet character of the ring r. It is proved that all the original Dirichlet characters form an orthogonal family over the ring r. In the conclusion, the following question of importance to the [illegible] of characters is raised: When does the multiplicativity [illegible] function of a variable imply its continuity? There are misprints [illegible]

[illegible] MA

ENCL: 00

L 57851-65 EWT(1)/EWT(m)/T/EWP(t)/EEC(b)-2/EWP(b)/EWA(c) Pi-4 LJP(c)
JD/GG

ACCESSION NR: AR4049420 S/0275/64/000/009/B008/B009
621.315.592:548.552:546.289

SOURCE: Ref. zh. Elektronika i yeye primeneniye. Svodnyy tom, Abs. 9B54 41
B

AUTHOR: Distler, G. I.; Korchazhkina, R. L.; Chudakov, V. S.

TITLE: Investigation of the effect of growing Ge single crystals upon their birefringence

CITED SOURCE: Sb. Metod fotoelektr. infrakrasn. polyariskopii i defektoskopii poluprovodnik. materialov. M., 1962, 28-35

TOPIC TAGS: birefringence, germanium crystal, crystal growing

TRANSLATION: By means of a PIK-1 photoelectric polariscope (λ = 2.25 mm), the effect of thermal conditions during Ge crystal growing upon the birefringence patterns caused by mechanical stresses was studied. Specimens up to 40 mm diameter were cut at right angles to the growing axis from the crystals obtained by the Chokhral'skiy-method growing and by zone melting. The birefringence distributions were compared to the dislocation-density distributions determined from etching patterns. It is noted that, under industrial conditions, the method of birefringence study requires less labor than the method of dislocation study. Bibliography: 4 titles.

Card 1/1 SUB CODE: SS ENCL: 00

VERNOV, S. M.[Viernov, S. M.]; CHUDAKOV, O. Ye.[Chudakov, O. IE.]

Investigation of cosmic rays and the terrestrial corpuscular radiation by means of rockets and satellites. Dos. such. fiz. no.6:17-33 '62. (MIRA 16:1)

(Spaceships) (Cosmic rays)

CHUDAKOV, P. D.

CHUDAKOV, P. D. -- "Investigation of Some Problems in the Process of Notching and Piercing." Min Higher Education USSR. Moscow Machine Tool and Tool Inst imeni I. V. Stalin. Moscow, 1955. (Dissertation for the Degree of Candidate in Technical Sciences)

So: Knizhnaya Letopis', No 1, 1956

CHUDAKOV, P.D., kand.tekhn.nauk

Investigating the mechanics of the process of blanking and punching. Sbor. MOSSTANKIN no.4:82-109 '58. (MIRA 12:4)
(Strength of materials)
(Punching machinery)

CHUDAKOV P. D.
P. 3.

PHASE I BOOK EXPLOITATION SOV/3718

Eksperimental'nyy nauchno-issledovatel'skiy institut kuznechno-pressovogo mashinostroyeniya

Issledovaniya i raschety mashin kuznechno-shtampovochnogo proizvodstva (Studies and Calculations of Forging and Stamping Machinery) Moscow, Mashgiz, 1959. 233 p., (Series: Its: Sbornik, kniga 1) Errata slip inserted. 8,000 copies printed.

Sponsoring Agency: USSR. Gosudarstvennyy komitet po avtomatizatsii i mashinostroyeniyu.

Ed.: A. I. Zot'yev, Candidate of Technical Sciences; Ed. of Publishing House: N. S. Stepanchenko; Tech. Ed.: T. F. Sokolova; Managing Ed. for Literature on Heavy Machine Building (Mashgiz): S. Ya. Golovin, Engineer; Editorial Board: G.P. Bol'shakov, Engineer; V. P. Vyatkin, Candidate of Technical Sciences; N. N. Vasil'yev, Engineer; A. P. Yeremkin, Engineer; I. B. Matveyev, Candidate of Technical Sciences; M. A. Mar'yanchik, Engineer; P. V. Novichkov, Engineer; B. S. Perevozchikov, Engineer; S. A. Podrez, Engineer; L. V. Rubnenkova; V. N. Ukhanov; P. D. Chudakov, Candidate of Technical Sciences; and A. I. Zot'yev.

Card 1/10

PURPOSE: The book is intended for technical personnel and scientific workers in the metal-forming industry.

COVERAGE: This collection of 12 articles deals with current research on metal-forming operations, the design and operation of press-forging machinery, and stress and force analyses in punching and blanking operations. No personalities are mentioned. References follow each article.

TABLE OF CONTENTS:

given. This method allows for spring deformation in addition to the usual allowance for load displacement.

Chudakov, P. D. [Candidate of Technical Sciences]. Calculation of Cutting Force and Work and the Layout of Graphs in the Cutting of Sheet Metal in Dies 104

The article is an analysis of cutting operations performed on stamping dies. The analysis includes stress conditions, deformation (stress-strain) characteristics, and formulas for obtaining a reliable estimate of required forces for performing cutting operations. The coefficients for punch penetration, yield point, elongation, area reduction, and tensile strength for some forty different types of metal sheets and plates are presented. The author endeavors to prove that force and power parameters in sheet-cutting operations can be established by two coefficients, tensile strength and reduction in area. New formulas are deduced to determine the force required for flat-end edges and beveled edges.

Chuda Reg F.D.

PART I BOOK EXPLOITATION SOV/5508

Moscow. Eksperimental'nyy nauchno-issledovatel'skiy institut khimicheskogo mashinostroyeniya.

Progressivnaya tekhnologiya i vopросy avtomatizatsii khimicheskogo proizvodstva (Advanced Processing and Problems of Automation of Die-Forming Operations) Moscow, Mashgiz, 1960. 126 p. (Series: Its: Trudy, no. 3) 3,500 copies printed.

Sponsoring Agency: Gosudarstvennyy komitet Soveta Ministrov SSSR po avtomatizatsii i mashinostroyeniyu.

Editorial Council: N.N. Vasil'yev, V.P. Tyutin, V.I. Dovydov, P.Ye. Dorov, A.P. Zernin, F.D. Zolotarev, A.I. Zor'kov, B.A. Kozlov, N.F. Lenov, I.K. Nazarov, B.N. Narkevich, I.P. Natveyev, N.A. Polev, L.A. Pomyrk, V.A. Popov, D.S. Povarevskikh, O.V. Protopopov, G.M. Rabov, L.V. Rabinovich, A.P. Slugin, B.I. Ukanov, P.N. Frolov, B.A. Chelishchev, P.D. Chudakov, and B.M. Shepherd; Chief Ed.: A.I. Zor'kov; Ed. of Publishing House: O.S. Scholova; Tech. Ed.: G.V. Smirnova; Managing Ed. for Literature on Heavy Machine Building: S.Ye. Gelperin, Engineer.

PURPOSE: This collection of articles is intended for personnel engaged in processing and for students in mechanical-engineering schools of higher education.

COVERAGE: The following problems in advanced processing by pressworking are reviewed: flexible drop forging; multiple forge rolling; cold extrusion; hole piercing instead of drilling; small-radius bending of metal sheets; straightening of thin-walled tubes; and embossing. Methods are given for selecting roller-feed parameters and hole size for rotary feed on crank presses. No personalities are mentioned. References accompany each article. There are 57 references: 56 Soviet and 1 English.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress (TJ1350.M65)

VK/mes/gs
5-13-61

Card 3/3

CHUDAKOV, P.D., kand.tekhn.nauk

Calculation of forces, performance and the plotting of working stress curves in sheet-metal cutting in dies. [Nauch. trudy] ENIKMASH a 1:104-133 '59. (MIRA 14:1)
(Sheet-metal work) (Metalworking machinery)

CHUDAKOV, P.D., kand.tekhn.nauk

Investigating the feasibility of piercing openings instead of drilling them in bushing-type parts. [Mauch. trudy] ENIKMASHa 3:54-66 '60. (MIRA 14:1)

(Sheet-metal work)

CHUDAKOV, P.D., kand. tekhn. nauk

Meaning of physical properties and force of the extreme principles in the theory of plasticity and the possibility of their application. [Nauch. trudy] EMIKMASha 7:3-20 '63. (MIRA 16:7)

(Plasticity)

ACCESSION NR: AT4048352 S/3000/64/000/008/0091/0099

AUTHOR: Chudakov, P.D. (Candidate of technical sciences); Il'ich, V.D. (Engineer); Borovitchenko, A.A. (Engineer)

TITLE: A study of the processes of steel pressing in the semihot state

SOURCE: Moscow. Eksperimental'ny*y nauchno-issledovatel'skiy institut kuznechno-pressovogo mashinostroyeniya. Nauchny*ye trudy*, no. 8, 1964. Novoye v kuznechno-shtempovochnom proizvodstve (Latest developments in the forging industry). 91-99

TOPIC TAGS: steel pressing, hot pressing, cold pressing, steel forging, pressing lubricant, semihot pressing

ABSTRACT: The authors briefly discuss cold and hot pressing of steels and conclude that in some cases it may be more economical to press semihot steel. The purpose of semihot pressing compared to cold pressing is to decrease the working pressure and to obtain parts whose accuracy and surface would be comparable to those obtained by cold pressing. Semihot pressing is a new and still insufficiently [illegible] is not [illegible]. Therefore the first [illegible] pressing were made during [illegible] results obtained are discussed in this paper. A special machine for semihot pressing is described.

L 16605-65
ACCESSION NR: AT4048352

A number of lubricants for semihot pressing were prepared and their effectiveness tested; their composition is given. A table shows the dependence of the values of specific pressures employed for various steels on the temperature and the degree of deformation. It is evident that a suitably chosen lubricant lowers the specific pressure considerably in the temperature interval investigated (923-1123K). In comparison with cold pressing, a lowering of specific pressure by a factor of 2-4 was observed. It is noted that the accuracy of the dimensions of forgings obtained by semihot pressing is determined essentially by the accuracy of the die and the pressing machine. When designing a pressing machine for semihot pressing, it is necessary to allow for temperature shrinkage, which is equal to 0.008. The microstructure of the forgings obtained by semihot pressing was examined and microcracks were detected. The satisfactory results obtained make a continuation of the investigation advisable to provide a basis for practical recommendations concerning the semihot pressing in industry. Orig. art. has: 6 figures and 1 tables.

ASSOCIATION: Eksperimental'ny*y nauchno-issledovatel'skiy institut kuznechno-pressovogo mashinostroyeniya, Moscow (Experimental Scientific Research Institute of Forging Machinery)

SUBMITTED: 00 ENCL: 00 SUB CODE: IE, FF

NO REF SOV: 003 OTHER: 000

Card 2/2

CHUDAKOV, P.D., kand. tekhn. nauk; IL'ICH, V.D., inzh.; BOROVITCHENKO, A.A., inzh.

Investigating semihot steel extrusion processes. [Nauch. trudy] ENIKMASha 8:91-99 '64. (MIRA 18:3)

USSR/Electricity - Cables
Books
Apr 51

"Review of A. F. Shenger's Book 'Design of Cables, Conductors, and Flexible Cords,'" P. I. Chudakov, Kol'chuga Tech School on Processing of Nonferrous Metals

178T53

"Elektrichestvo" No 4, pp 93, 94

Very unfavorable review of subject book. Although published in 1950, book is made up almost exclusively from prewar material of the "Sevkabel'" plant. Significant postwar developments

USSR/Electricity - Cables (Contd) 178T53

in high-voltage cable, hf communications cables, and wires with glass-wool insulation are completely omitted. Arrangement of material is poor.

Apr 51

178T53

CHUDAKOV, P.I., inzh.

Semianealing of aluminum wire strands during the insulation process on continuously vulcanizing machines. Vest.elektroprom. 33 no.6:24-27 Je '62. (MIRA 15:7)
(Electric wire, Insulated)

SOROCHKIN, Naftaliy Khaimovich; CHUDAKOV, Pavel Ivanovich; SHARLE, David Leonidovich; Prinimal uchastiye GAVRILYUK, V.V.; ANTIK, L.V., red.; SOLOGUBOV, V.I., tekhn. red.

[Collection of problems on the calculation and design of cables and wires] Sbornik zadach po raschetu i konstruirovaniiu kabelei i provodov. Moskva, Gosenergoizdat, 1963. 95 p.

CHUDAKOV, V., inzh.-podpolkovnik

Testing radio equipment on a vibratory stand. Av. i kosm. 45 no.1:74 Ja '63. (MIRA 16:1)

(Airplanes—Radio equipment—Testing)

STOROZHEV, A.; CHUDAKOV, V., mashinist elektromostovogo krana

It is for us to build communism, it is for us to live under communism. Metallurg 10 no.4:33-34 Ap '65. (MIRA 18:7)

1. Zamestitel' predsedatelya zavodskogo komiteta professional'nogo soyuza rabochikh metallurgicheskoy promyshlennosti Cherepovetskogo metallurgicheskogo zavoda (for Storozhev).

KONSTANTINOV, V.I.; SUTOVSKIY, S.M.; Prinimali uchastiye: MARTIROSOV, Zh.G.; RUVINOV, E.S.; GULIYEV, A.M.; KITUSHINA, I.A.; NIFONTOV, P.R.; CHUDAKOV, V.A.

Automatic measurement of chlorine concentration in anodic gas. TSvet. met. 36 no.5:45-51 My '63. (MIRA 16:10)

1. Nauchno-issledovatel'skiy i proyektnyy institut "Neftekhimavtomat" (for Martirosov, Ruvinov, Guliyev, Kitushina).

LAZURENKO, S.R., inzh.; LAPINSKIY, Ye.I., inzh.; CHUDAKOV, V.D., inzh.

Analyzing the comparative studies of industrial tractors. Trakt. i sel'khozmash. no.7:13-14 Jl '64. (MIRA 18:7)

1. Chelyabinskiy traktornyy zavod.

ISAKOV, P.P.; SKARYTIN, L.I.; SHCHERBAKOV, V.A.; MAKARENKO, V.I.; BOL'SHUKHIN, V.S.; PIVNIK, M.M.; CHUDAKOV, V.D.; YAKOVLEV, G.S.;

[DET-250 diesel-electric tractor; its construction and operation] Dizel'-elektricheskii traktor DET-250; ustroistvo i ekspluatatsiia. Moskva, Mashinostroenie, 1965. 479 p. (MIRA 18:7)

CHUDAKOV, V. G.

Professor A. A. Smorodintsev, V. G. Chudakov, A. V. Churilov, Gemorragicheskiy nefroso-nefrit /Hemorrhagic Nephroso-Nephritis/, Medgiz, 8 sheets, 1953 124p.

The book elucidates the etiology, epidemiology, clinical practice, diagnosis, certain questions of the pathogenesis, and certain methods of therapy and prophylaxis of hemorrhangic nephroso-nephritis.

Intended for physicians and scientists studing virus diseases.

SO: U-6472, 23 Nov 1954

CHUDAKOV, V.G., prof.

Present status of the problem of the pathoanatomy and pathogenesis of hemorrhagic nephroso-nephritis (hemorrhagic fever with renal syndrome) [with summary in English]. Arkh.pat. 19 no.10:69-81 '57. (MIRA 11:2)

1. Iz kafedry patologicheskoy anatomii (nachal'nik - prof. A.N. Chistovich) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.

(EPIDEMIC HEMORRHAGIC FEVER, pathology, review (Rus))

CHUDAKOV, V.G.

Pathological anatomy and pathogenesis of the experimental crush syndrome. Arkh.pat. 21 no.11:38-43 '59. (MIRA 13:12)
(KIDNEYS—DISEASES)

D'YACHENKO, P.K.; KATAYEVA, G.A.; POMOSOV, D.V.; RYAZHKIN, G.A.; STENGANTSEV, V.I.; FOY, L.K.; CHUDAKOV, V.G.; YANCHUR, N.M.

Effectiveness of neuroplegic substances and hypothermia in the prevention and treatment of traumatic shock in irradiated animals. Voen.-med. zhur. no.7:86 Jl '61. (MIRA 15:1)
(AUTONOMIC DRUGS) (HYPOTHERMIA)
(SHOCK) (RADIATION SICKNESS)

CHISTOVICH, Aleksey Nikolayevich; CHUDAKOV, V.G., red.; CHUNAYEVA, Z.V., tekhn. red.

[Pathological anatomy and the pathogenesis of tuberculosis; essays] Patologicheskaia anatomiia i patogenez tuberkuleza; ocherki, Leningrad, Medgiz, 1961. 119 p. (MIRA 15:10)
(TUBERCULOSIS)

SMORODINTSEV, Anatoliy Aleksandrovich; KAZBINTSEV, Lev Ivanovich; CHUDAKOV, Valentin Georgiyevich; GOL'SHTEYN, N.I., red. [deceased]; SHNAYDER, B.Ye., red.; KHARASH, G.A., tekhn.red.

[Viral hemorrhagic fevers] Virusnye gemorragicheskie likhoradki. Leningrad, Medgiz, 1963. 291 p. (MIRA 17:2)

Chudakov, V.M.

S/166/60/000/03/03/011
C111/C222

AUTHORS: Azimov, S.A., Corresponding Member of the AS Uz SSR, Chernov, G.M., and Chudakov, V.M.

TITLE: On the Investigation of the Angular Distribution of Shower Particles in Nuclear Interactions

PERIODICAL: Izvestiya Akademii nauk Uzbekskoy SSR, Seriya fiziko-matematicheskikh nauk, 1960, No. 3, pp. 16 - 23

TEXT: The authors join the results of (Ref. 1,2,3). Let $c\beta_c$ be the velocity of the system of the mass center, $c\beta^*$ be the velocity of the particle in this reference system; let $m = \frac{\beta_c}{\beta^*}$. The paper contains a theoretical investigation of the angular distribution of the shower particles for different $m \neq 1$. It is assumed that there exists a reference system with a symmetrical angular distribution of the shower particles with respect to the angle $\theta^* = \frac{\pi}{2}$ (S - system). The system of the laboratory is called L - system.

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On the Investigation of the Angular Distribution of Shower Particles in Nuclear Interactions

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It is stated that the deviation of the number m from the value 1 for not too large energies leads to an appearant asymmetry of the angular distribution with respect to the angle $\frac{\pi}{2}$ in an arbitrary reference system. At the other hand, here the anisotropy of the angular distribution in the S-system and the mean value $\bar{m}$ can be estimated if the weak dependence of the characteristics of the angular distribution of m in the domain of small angles θ in the L - system is used. Different methods for the estimation of $\bar{m}$ have to lead to the same results and simultaneously show whether $\bar{m}>1$ or $\bar{m}<1$. In the contrary case it can be concluded that there does not exist a reference system with an angular distribution symmetrical with respect to $\frac{\pi}{2}$. There are 5 figures and 7 references: 6 Soviet and 1 American.

ASSOCIATION: Fiziko-Tekhnicheskiy institut AN Uz SSR (Physical-Technical Institute AS Uz SSR)

SUBMITTED: February 2, 1960

Card 2/2

VB

Chudakov G.M.

23.5000

AUTHORS: Anisov, S. A., Tukhalyan, Z. S., Charuva, L. P., Chernov, G. M., Chudakov, G. M.

TITLE: Angular Distribution of Shower Particles in Nuclear Interactions Between Fast Nucleons and Heavy Nuclei of Photographic Emulsions

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 6(12), pp. 1534-1539

TEXT: The angular distributions of secondary particles were investigated in 70 interaction events of singly-charged or neutral cosmic particles with heavy photoemulsion nuclei. These showers were found during the evaluation of Ilford-G-5 plates, which had been exposed in the stratosphere in 1955, in the course of the Italian expedition. 55 of them had been caused by singly-charged, and 15 by neutral particles. The energies of the primary particles could be determined as amounting to $10^{10} - 10^{12}$ eV; the showers consisted of more than eight strongly ionizing particles. Symmetry investigations of the angular distributions led to the result that symmetry

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exists with respect to the angle $\pi/2$ in a system of reference, in which for half of all particles $\theta^* > \pi/2$ (c-system); the conversion of θ measured in the laboratory system is carried out according to the equation

$\gamma_0 \tan \theta = \tan(\theta^*/2)$, where γ_0 is the Lorentz factor. γ_0 is determined from $(\gamma_0)_1 = \operatorname{ctan} \theta_{1/2}$ and $\log (\gamma_0)_2 = -\log \tan \theta$, $\gamma_0 = \gamma_0 - \frac{1}{2}[(\gamma_0)_1 + (\gamma_0)_2]$.

Fig. 1 shows the angular distribution in the c-system for secondary shower particles, caused by charged particles a) for $\gamma_0 < 3$ (31 showers of 55), and b) for $\gamma_0 > 3$. Further, the dispersions for the angular distributions were investigated along with the interrelation between γ_0 and the number of the relativistic tracks n_s. ($\gamma_0 > 5$). The mean anisotropy of the angular distribution of the particles in the c-system may quantitatively be characterized by:

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$$\sigma = \left[\sum_{i=1}^{n_s} \frac{\sum_{j=1}^{n_s} \left[\log \tan \theta_{ij} - \overline{(\log \tan \theta)_i}\right]^2}{\sum_{i=1}^{n_s} (n_s - 1)}\right]^{1/2},$$

where n_s is the number of charged secondary particles in the i-th shower with $\theta < \pi/2$, N is the number of showers, σ is between 0.44 and 0.55.

The authors thank G. B. Zhdanov for discussions, Ya. S. Takhayev, Ali Mahmoud, and T. Italian

There are 4 figures, 1 table, and 8 references: 5 Soviet, 2 US,

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk Tadzhikskoy SSR (Institute of Physics and Technology of the Academy of Sciences of the Tadzhikskaya SSR). Sredneaziatskiy gosudarstvennyy universitet (Soviet) Central Asia State University)

SUBMITTED: June 27, 1960

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